ISSUE 9 ■ MARCH 1989 ■ £2.95

# ST AMIGA FORMAT

The complete package for Atari ST and Commodore Amiga owners

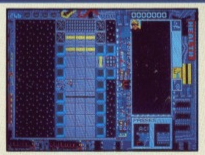
# BEST OF ALL WORLDS!

**PC ■ MACINTOSH ■ BBC**

**RUN THE UNIVERSE OF SOFTWARE WITH AN EMULATOR**

## LOADING GUARANTEED!

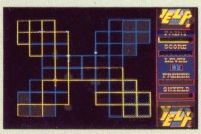
One disk for two machines – full details inside of this month's incredible value ST and Amiga software



▲ *Jitterbug (ST) – complete game*

◀ *Hangman (ST) – makes learning fun.*

▲ *Utilimaster (Amiga) – unleash the CLI's hidden power.*



▲ *Yelp (Amiga) – fully playable Super Painter clone.*

**FORMAT SUPERDISK**

THE ACTION STARTS ON PAGE 37

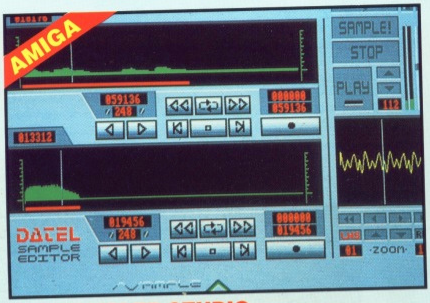
THE BEST GRAPHICS EVER?

## DRAGON'S LAIR

**OUT OF THIS WORLD**

- **VIDEO EDITING**
  *Amiga+MiniGEN+Video recorder= home editing studio.*
- **PIRATE OR PRIVATE?**
  Multiface ST copier – *is anything safe?*
- **GET ORGANISED!**
  *Diaries, notes, addresses –* DAATAfax and Day by Day *on test.*

# DATEL ELECTRONICS



## PRO SAMPLER STUDIO

- A top quality sound sampling system at a realistic price.
- 100% machine code software for realtime functions.
- HiRes sample editing.
- Realtime frequency display.
- Realtime level meters.
- Adjustable manual/automatic record trig level.
- Variable sample rate & playback speed.
- Seperate scroll line waveform windows & zoom function with Edit windows for fine accurate editing.
- 3D shot of sound waveform. Wave editor to design your own waveforms or adjust existing ones.
- Microphone & line input.
- Software files can be used within other music utilities.
- Amiga version comes complete with "JAMMER" software for playback/sequencing of your recorded samples.
- Lots of useful features.
- ST version has MIDI playback option. Play recorded samples via external MIDI keyboard.
- Complete Hardware/Software package.

**ONLY £69.99 PLEASE STATE A500/1000/2000 OR ST VERSION**

## MIDIMASTER

- Full Midi Interface for A500/1000/2000 (please state model).
- Compatible with most leading Midi packages (including D/Music).
- Midi In - Midi Out x3 - Midi Thru.
- Fully Opto isolated.
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**SPECIAL OFFER!! BUY THE MIDIMASTER & THE MIDI MUSIC MANAGER TOGETHER FOR ONLY £59.99**

## MIDI MUSIC MANAGER

**A TRULY PROFESSIONAL MIDI PACKAGE AT A REALISTIC PRICE**

- Play sampled sounds on Amiga from any Midi track.
- Full dubbing - listen to one track while recording another.
- Works with many Midi interfaces including Datel Midi Master (see Ad)
- 8 realtime Midi tracks for record/playback.
- Adjustable track length - limited only by available memory.
- Works with standard IFF files.

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## MIDI CABLES

- Top quality.
- 3 metre length.

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**UNBEATABLE VALUE**

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- Replace internal 500K drive with a full 1 meg unit.
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- Full fitting instructions.
- Easily fitted, no special skills required.
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- Simply plugs into disk drive port the ST.
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- Displays track number, disk side and read/write status as the head moves along the disk.
- Has daisy-chain socket to connect external drive.
- Invaluable for identifying protectic tracks etc.
- Two-digit LED display.
- Displays up to track 85.
- Works on both internal and externa drive (switchable).
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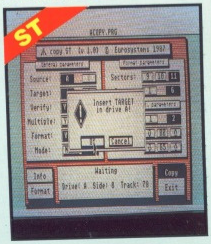

## DEEP SCAN BURST NIBBLER

- Copy an entire disk in under 60 seconds.
- Works with one drive or two.
- Copy 1 or 2 disk sides - up to 85 tracks.
- Special format parameters for non-standard formats.
- Full verify option.
- Easy to use Icon driven programme takes the mystery out of disk backup.
- Very powerfull. Regular updates available.

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**PLEASE STATE VERSION FOR ST OR AMIGA REQUIRED**

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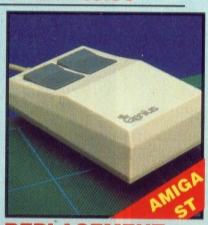


## REPLACEMENT MOUSE

- High quality direct replacement for mouse on ST/Amiga.
- Teflon glides for smoother movement.
- Rubber coated ball for minimum slip.
- Optical system counting - 500/mm.

*Special offer - free mouse mat + mouse house (worth £7.99).*

## ST TIMEKEEPER

- The correct time/date every time you switch on your ST.
- Works with most GEM type applications.
- Battery backed Clock/Calender.
- On board Lithium battery for extra long life.
- Through port allows other cartridges to be connected.
- Displays in 12 or 24 Hr. format.
- Comes complete with set-up disk & alarm clock utility.

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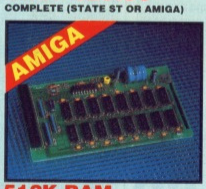
## GENISCAN GS4000 ST/AMIGA

- An easy to handle Handy Scanner featuring 105 mm scanning width & 400 dpi resolution enables you to reproduce graphics & text on your computer screen.
- Adjustable switches for brightness & contrast.
- Printout for Epson compatibles.
- A powerful partner for Desk Top Publishing.
- With Geniscan you have the ability to easily scan images, text & graphics into the ST/AMIGA.
- Powerful software allows for cut & paste editing of images etc.
- Save images in suitable format for most leading packages including DEGAS, NEOCHROME, FLEET-STREET, DELUXE PAINT etc.
- Package includes GS4000 scanner, interface & Scan Edit software.
- Unmatched range of edit/capture facilities simply not offered by other scanners at this unbeatable price.

**ONLY £29.99**
COMPLETE (STATE ST OR AMIGA)




## 512K RAM EXTENSION CARD

- Available with/without calender/clock option.
- Simply plugs internally into A500 slot.
- Switch in/out with switch supplied.
- Fitted in minutes - no soldering etc.
- Accepts 41256 DRams (zero K RAM fitted).
- With calendar/clock onboard time/date automatically booted.
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NB THESE PRICES ARE FOR BOARDS WITHOUT RAM CHIPS. PHONE 0782 744707 FOR RAM PRICES. PHONE FOR LATEST FULLY POPULATED BOARD/RAM PRICES.

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- Model 420, high performance, low cost Bar Code Reader.
- Works with any Amiga/ST computer system (please state which) via the RS232 interface.
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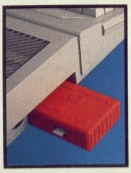
## SPECIALS



**17**

### MULTIFACE ST

An omni-functional device for hacking programs, organising data files and backing up software. Nothing's safe with this.

**21**

### SPEAK TO ME

My computer doesn't understand me! A look at every input device from archaic punch cards to futuristic Starfox-style thought waves.

### REPEAT SERIAL

**45**

Buying a modem? All you need to get on line. Plus the recommended bulletin board list – from the lame to the lewd.

**81**

### BETWEEN THE SHEETS

Side by side, *Superplan* for the Amiga and *KSpread3* for the ST. Two sizzling spreadsheets to snuggle up to.

**86**

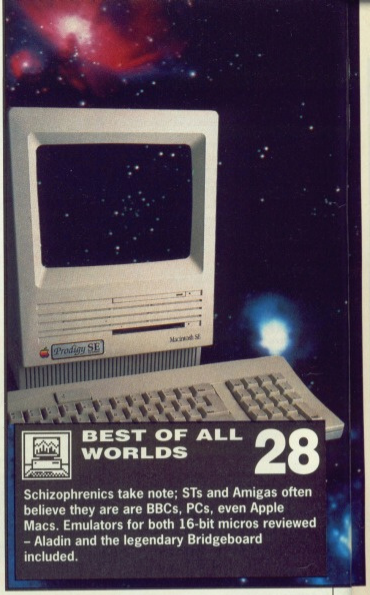
### MAKE YOUR DAY

Don't get caught on the hop. Make sure you have an excuse for jumping like a wild thing – organise yourself with *Daatafax* or *Day by Day*.

**89**

### AMIGA BASICS

*HiSoft BASIC*, *GFA BASIC 3* and *AC BASIC* put to the test. Discover which takes the glory.



**28**

### BEST OF ALL WORLDS

Schizophrenics take note; STs and Amigas often believe they are are BBCs, PCs, even Apple Macs. Emulators for both 16-bit micros reviewed – Aladin and the legendary Bridgeboard included.

## GAMES

**54**

### SCREEN PLAY

Fantasy games that blow your mind get Gold this issue. Mind-searing graphics in *Dragon's Lair* coupled with brain-busting puzzles in *War In Middle Earth* mean you're in for a real headache. That's fact. Following closely are *Hybris*, *Sword of Sodan*, *Captain Fizz* and others.

**66**

### GAME BUSTERS

You know where to go for the best cheat and hacks – so don't waste time. All the latest ST and Amiga games ripped wide open.

## REGULARS

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# DISK EXTRA

Plenty of power packed programs for your perusal this month. There's no piffle here, matey.

**ST**

*Jitterbug*, a wonderful multiplayer maze game; *CPanel* accessory which provides lots of utilities; *Disk Mech* for editing your disks; *Hangman*, which needs no explanation; *Speaktex*, the software speech synthesizer; *Lineup4*, which gets its roots from the classic Connect 4 game.

**AMIGA**

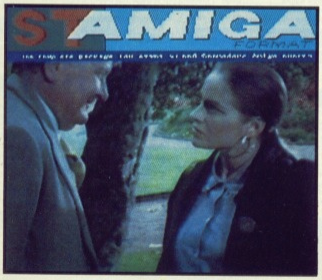
*Yelp*, the fantastically addictive game with great graphics and terrific tunes; *Util Master* for those with CLIphobia; *Dmouse* for speeding mouse operations; *Exploding windows* (??!); *WBkaleid*, which will cause havoc with your Workbench.

## MUSIC

**SOUNDING OFF** 84

Steinberg's *Pro 12*, which is currently being given free with 1040s sold by certain distributors, and Desktop Projects' innovative *MIDIgrid* fall under Chris Jenkins' gaze.

## GRAPHICS




**VIDEO TITLING** 12

ASD's budget genlock system for the Amiga, *MiniGen*, reviewed plus all the software and leads you need to make your own captioned blue movies.

**TOON TIME** 76

*Cyber Paint 2* for the ST and *Cel Animator* for the Amiga put through their paces.

# COPY RIGHTS?

Romantic Robot's Multiface backup utility reviewed this month raises a controversial issue: is it legal to copy software for archival purposes? A game costs upwards of £20, a serious application like a word processor often weighs in at around £100 and so-called "professional" packages can be more expensive than your computer. The argument isn't whether you are being ripped off, but whether you should be entitled to copy the software you have bought. That's copy as in make a single backup; not copy as in duplicating 300 times for distribution round the country. Don't confuse making a backup with pirating.

There really isn't any option. You simply must protect your software investment. You'd be foolish not to; however, you'd probably be breaking the law at the same time. Unless a software house gives you permission to backup a piece of software (usually in the form of some clause in the documentation), you can be prosecuted in the civil courts. It's a Catch 22 situation – whatever you do you're in trouble.

Some packages come with a notice encouraging you to backup the software – but they are in the minority and are generally serious applications costing vast amounts. Most software unfortunately is sold without any proviso; there is nothing in the fine print that says you can't make a backup, but then again there's nothing that says you can. So what do you do? You have to phone the manufacturer and ask permission. Even if you discover you are allowed to make a backup, you probably won't be able to as the program is heavily protected.

A law is required that enables anyone who buys a package to make a single archive copy of the software. Alternatively it could be compulsory that software houses supply two copies of a program; one master disk and one backup. Of course there are other ways round the problem, but the sooner something is done the better.

Ben Taylor

## TECHNOPHILE

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# Always Reasonable Reliable And No Fuss

ARRAN

## COMPUTERS

### ATARI

**520 STFM Explorer pack £299. Our Price £275**

**520 STFM Super Pack inc:**
* Business Organiser
* Joystick
* ST Basic Disc/Tutorial Book. RRP £399
* 21 Games
* Mouse

Our Price **£360**

**1040 STFM Professional Pack Inc:**
* VIP Professional (Spreadsheet) value £149.95
* Microsoft Write (Word Processor) value £149.95
* Superbase Personal (Database) value £59.95
* Basic Disc & Manual (language) value £24.95

RRP £499. Our Price **£450** for complete package. **WHAT VALUE!!**

**Mega ST 2MB** inc p rofessional Pack (Software as listed) with 1040 STFM RRP £899 Our Price **£810**

**Mega ST 4Mb** inc Professional Pack (Software as listed) with 1040 STFM RRP £1199. Our Price **£1080**

**Atari Mono Monitor** RRP £149.99. Our Price **£100** when purchased with 1040 STFM

**Atari Colour Monitor** RRP £399.99 Our Price **£300** when purchased with 1040 STFM.

**ATARI PC's P.O.A.**

### AMIGA

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* 10 Star Games pack. RRP £399.00 Our Price **£370.00**

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* The Works Software Pack
* Citizen 120D Dot Matrix printer
* Transformer PC Emulator

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**A500 Colour Business Pack inc:-**
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|---|---|---|
| Demon II | 91.94 | 82.75 |
| Designer Modem | 113.85 | 102.45 |
| Linnet | 163.30 | 138.95 |
| Miracle WS 2000 | 125.00 | 106.95 |
| Miracle WS 4000 | 194.35 | 165.00 |

### MONITORS

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|---|---|---|
| Amiga 1084 Med - Res Col | 299.95 | 276.50 |
| Amiga 1900 Mono Monitor | 99.99 | 95.00 |
| Atari SC1224 Med - Res Col | 399.99 | 360.00 |
| Atari SM124 Hi Res Mono | 149.99 | 135.00 |
| Philips CM8833 Med - Res Col | 314.95 | 285.00 |

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| Atari 1 Meg 3.5 Single | 159.99 | 145.00 |
| Atari 1 Meg 3.5 Single | 149.95 | 135.00 |
| Cumana 1 Meg 3.5 Single | 109.00 | 100.00 |
| Cumana 1 Meg 3.25 Single IBM Format | 139.00 | 125.00 |
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| Traingle 1 Meg 5.25 Single | 149.95 | 135.00 |
| Triangle 1 Meg 3.5 Single (Am) | 109.95 | 100.00 |

Please ring for hard drive prices

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| Atari SMM 804 | 199.99 | 180.00 |
| Citizen 120D | 251.85 | 165.00 |
| Epson LX800 | 316.25 | 265.00 |
| Seikogha SP - 180 AI | 194.35 | 165.00 |
| Seikosha SP - 1200 AI | 217.35 | 185.00 |
| Seikosha SL - 80AI 24 pin | 401.35 | 325.00 |

### MUSIC

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| Sound Sampler | 49.95 | 43.50 |
| ST Replay V4.0 | 79.95 | 63.95 |
| ST Sound Sampler (I,S Digitiser) | 69.95 | 59.95 |

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| ST 3D Graphics Programming | 16.95 | 13.50 |
| ST Basic Training Guide | 12.95 | 10.50 |
| The ST Explored | 8.95 | 7.50 |
| ST Graphic & Sound Programming | 13.45 | 10.75 |
| ST Internals | 14.95 | 11.95 |
| ST Intro to Midi | 14.95 | 11.95 |
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| Concise 68000 Prog Ref Guide | 17.50 | 14.00 |
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| Mastering Sound & Music | 15.95 | 12.75 |
| Understanding & Using C/B II & III | 17.35 | 13.95 |

### AMIGA

| | | |
|---|---|---|
| 1001 Things to do with your Amiga | 10.00 | 8.00 |
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| AM Basic inside & Out | 16.95 | 13.50 |
| AM Dos manual | 22.95 | 19.50 |
| AM Dos Ref Guide | 14.95 | 11.95 |
| AM For Beginners | 10.95 | 8.75 |
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| AM Tuition Ref manual | 23.70 | 20.00 |
| AM Machine Language | 12.95 | 10.50 |
| AM Machine Language Prog Guide | 19.95 | 15.95 |
| AM Programmers Handbook | 24.95 | 19.95 |
| AM Programmers Handbook Vol 2 | 24.95 | 19.95 |
| AM ROM Kernal Ref Manual | 23.70 | 20.00 |
| AM Tricks & Tips | 12.95 | 10.50 |
| AM Users guide to graphics, sound & comms | 18.95 | 14.95 |
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| Progs guide to Amiga | 24.95 | 19.95 |
| Using Deluxe Paint II | 18.95 | 14.95 |

### GENERAL

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| 68000 Micro processor handbook | 15.95 | 12.75 |
| Advanced C programming | 19.10 | 15.00 |
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# NEWS

- Grey imports dilemma
- Mega ST1 announced
- 1 Mbyte standard?
- Latest versions
- Amiga developers conference

# GREY IMPORT FURORE

Over the past few months software importer Gainstar, nestled away in rural Surrey, has been causing the UK software industry considerable concern. Gainstar first made its mark on the software scene when it introduced the Buena Vista game *Who framed Roger Rabbit* to the British shores. Activision owned the official distribution rights and were not amused by Gainstar's interference, threatening legal action unless they withdrew sales.

It was problems with the marketing of the much-awaited Amiga version of *Dungeon Master* that really made Gainstar headline news. Mirrorsoft had exclusive rights with the Californian-based FTL to distribute *Dungeon Master* in the UK. However, Gainstar purchased smaller quantites of US stock from FTL via its own American-based branch and consequently managed to sneak in copies to the UK ahead of the official release.

Mirrorsoft's Tom Watson opined that Mirrorsoft "does not support the workings of box-shifting importers because they don't necessarily benefit the consumer." At a price tag of £34.95 – £10 more than Mirrorsoft's cost – this could be true, but at the end of day Gainstar were the first to provide the consumer with *Dungeon Master*.

Gainstar are increasing their involvement in the software market. They now have exclusive rights to distribute all Discovery software which includes *Sword of Sodan* and *Hybris*. As far as its involvement in the games scene is concerned, Gainstar simply provides the customer with a speedy service, often having foreign products a long before other software companies – but at a price.

What looks less attractive is Gainstar's involvement in the serious software market. *Calamus* – widely previewed as the ultimate DTP package is a case in point.

*Calamus* has been on sale in the States for a month or two now, but over here Atari have the official rights to the product. Atari's Darryl Still claims that the US version was "greatly bugged" and that the UK team are working on a reliable version to be launched in March. However, Gainstar now looks set to release the error-ridden version at a price of £250 as opposed to Atari's proposed price tag of around double that.

However, Michael Fotoohi from Gainstar assured potential clients, "In the event of any problems we would not hesitate in contacting the States and would even take money out of our own pockets to keep the customer happy." This might not be the ideal way of providing rapid software support, but at least the consumer can be assured of some help.

# The only way is up

512K isn't enough! That's the view of many software houses. And, it seems, the opinion held by Atari and Commodore. At the last count there were over 20 titles that require at least 1Mbyte of memory to run. For instance, *K-Roget*, *VIP Professional*, *Cyber Paint 2*, *Professional Page* and *Comic Setter*. Unfortunately it's not only serious applications that suffer the 1Mbyte syndrome. Several games require more than 512K – like *Dungeon Master* and *Dragon's Lair* – and others work more efficiently; *Interceptor*, *King of Chicago*, *Typhoon* to name a few.

Commodore and Atari are well aware that the 512K memory present in the A500 and 520FM doesn't pack nearly as much punch as it did when the machines were originally launched. Commodore has recently announced a bundling deal that includes an A500, 512K expansion RAM and *Dragon's Lair*. Rumours have long suggested that A500s produced later in the year will come with 1Mbyte of memory as standard.

A year ago the 520ST was seen as the high-end games machine and the 1040 as the low-end business machine. That's changed now. The 1040 is regarded as the high-end games machine. Even the much-rumoured, little-seen, laptop is to come with 1Mbyte as standard.

Already on the drawing board for this year are *Calamus*, *Videoscape 3D 2*, *PageStream* – it's unlikely that support for 512K machines will tail off, but all the really sexy stuff will require 1Mbyte.

## Mega ST1 on the way

■ *Atari have announced a new addition to the ST family – a one megabyte Mega. This new machine will effectively be a 1040's guts in a Mega's clothing, giving a more professional case and keyboard for business use. Atari claim the machine will be launched in Easter, but judging by past performances that may be optimistic. A £690 price tag has been given to the new computer; this includes mono monitor.*

■ *A selection of recent software titles that require 1Mbyte to run. More and more package will need 1Mbyte in the forthcoming year. At this rate it won't be long before 4Mbytes are necessary.*

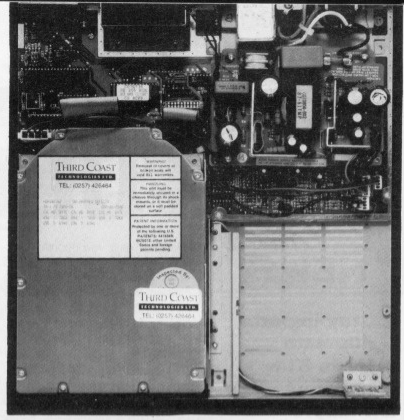
# Hard drive upgrade

A unique hard drive upgrade facility is being offered by Third Coast Technologies, whereby existing Atari-compatible drives can be traded in for larger, faster models.

The deal involves sending off your current hard drive unit – Atari *SH204* and *SH205*, *Megafile 20* and *30*, entire Supra, Triangle and Cumana range accepted – and Third Coast will rip out whatever drive is present inside and replace it with either a 45Mbyte or 65Mbyte Miniscribe Winchester drive. Any data on the drive sent in is copied onto the new, high-capacity, drive, along with a selection of 20 new utilities for partitioning, etc. Miniscribe drives typically provide 40% gain in performance and 60% increase in storage.

An *SH204* or *Megafile* can be upgraded to 45Mbytes for £249 – this includes VAT and installation. Larger drive upgrades are available starting at 65Mbytes for £299.

■ *Third Coast Technologies, Unit 8, Bradley Hall Trading Estate, Standish, Wigan, WN6 0XQ (01-828 9755)*




***An Atari SH205 ripped open and shown with Third Coast's faster Miniscribe Winchester hard drive which boasts 45Mbytes storage.***

# Quickies

■ Romantic Robot is after a 68000 programmer to write software for its forthcoming real-time colour video digitiser. The hardware, which interfaces to both the ST and Amiga, is ready. The complete package should retail between £200 and £300. If you fancy taking on the job contact Romantic on 01-200 8870.

■ *Miniamp 2* for the Amiga will boost the Amiga's sound to give stereo reproduction. *Miniamp* comprises two speakers, an amplifier and a length of wire for plugging into the Amiga's phono sockets. Cost is £19.99. Details on 0274 691115.

■ Electric Distribution has two new clip art packages for the ST, *DrawArt* (£49.95) and *ScanArt* (£39.95) consists of a collection of IMG images for use with most DTP and graphic software. Both packages together can be bought for £69.95, a saving of £20. Information on 0480 496789.

■ Just as we were going to press, a new Amiga animation package, *Zoetrope* landed on our desks. On closer inspection this turns out to be a straight port of ST *Cyber Paint 2* reviewed this issue. Unsurprisingly *Zoetrope* comes from Antic, creator of the *Cyber* series. *Zoetrope* requires 1Mbyte of memory, costs £99.95 and is available from ISM (0983 86474).

## Three in one

Real fans of emulators will be pleased to know that they can now run PC *and* Macintosh *and* ST software all in one box. US Condor Computers has recently set up a UK office in London to distribute their *Troika* system.

*Troika* is a 1040ST offering PC and Macintosh emulation. Included in the system is a 30Mbyte hard drive, second 3.5" drive, 5.25" drive, real time clock, colour and mono ST modes via a multisync monitor (capable of handling all Atari resolutions), PC board (8MHz V30 processor, CGA colour, 8087 co-processor socket, 512K, extra RAM sockets) and Macintosh Plus emulator (reads and writes Mac 400K and 800K disks directly). Cost for this mammoth system is £2499 plus VAT.

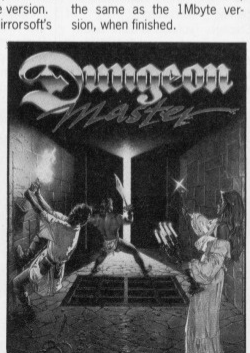
■ *Condor Computers, 31 Palace Street, London, SW1E 6HW (01-828 9755).*

# Dungeon Master for A500s

Following weeks of speculation as to whether *Dungeon Master* would be available in 512K Amiga format, Mirrorsoft confirmed that it will be distributing the product from America just as soon as FTL complete the revision of the 1 Mbyte version.

According to Mirrorsoft's MD, Peter Bilotta, the product is due to be released around the end of March. For over nine months *Dungeon Master* has been available for STs; due to the more complex structure of the Amiga, FTL wasn't able at first to fit the original ST code into a comparable amount of Amiga memory. Bilotta couldn't comment as to what bits might be left out in the new cut-down version.

Mirrorsoft claims that *Dungeon Master* has sold 40,000 units on the ST since its launch, and 10,000 on the 1Mbyte Amiga. The volume of Amiga sales has been in European markets like Germany and Scandinavia. *Dungeon Master* A500 will cost £24.95, the same as the 1Mbyte version, when finished.




# UPGRADES

**Following is a list of software upgrades with a brief note of what's new in the latest version. If you're a software house, let us know what's changed in your products and we'll mention you in future issues.**

**ST**

***Flair Paint 1.10*, AMS – now works properly with hard drives.**

***Power BASIC 1.23*, HiSoft – minor bug fix.**

***Vidi 1.21*, Rombo Productions – major upgrade which includes mono software, cameo representation/selection of frames and quantising.**

***WordUp 1.30*, HB Marketing – hugely improved manual, graphics can be sized and cropped, glossary added.**

**AMIGA**

***HiSoft BASIC 1.03*, HiSoft – several major bugs to do with library functions removed.**

***KindWords 2.00*, Disc Company – Webster dictionary and thesaurus, automatic hyphenation, new fonts.**

***Protext 4.13*, Arnor – automatic stack setting for spell-checking and NTSC compatibility.**

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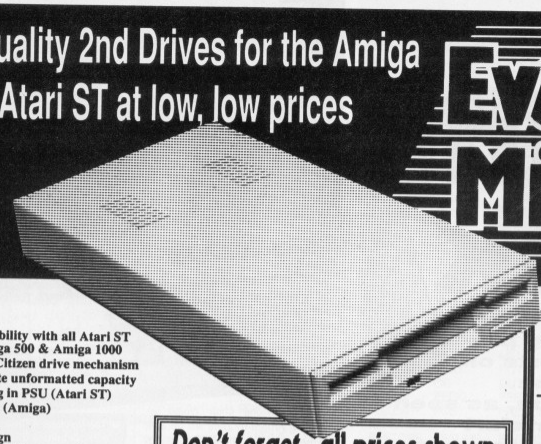

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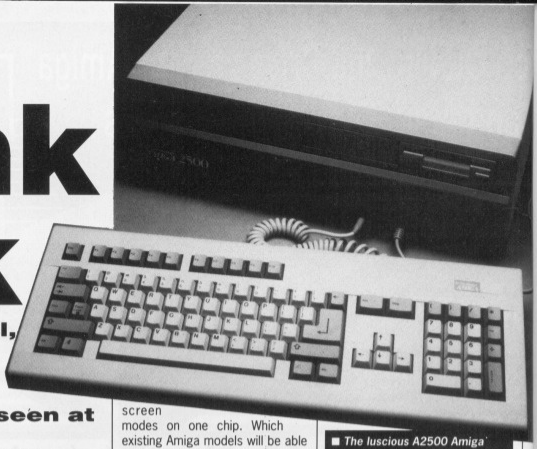
# Think tank



**Andy 'DevPac' Pennel, HiSoft's leading programmer, reports on the future of the Amiga in Europe, as seen at the recent Frankfurt Developer's Conference.**

■ *The luscious A2500 Amiga which contains a 68020 processor, 2Mbytes or 4Mbytes of RAM and a 68881 maths co-processor.*

The first European Developers Conference was held way back in late 1985 in Eastbourne, so the second conference was somewhat overdue.

Commodore reckon there are one million Amigas world-wide, with a staggering seven times more A500s than other Amigas. Future software plans centred on Kickstart 1.4 and various future hardware add-ons were discussed, though queries on the A3000 elicited a stony silence.

### Super Amiga

The new hardware that I crave most is the A2620 card which contains a 68020 processor, 2Mbytes or 4Mbytes of RAM and a 68881 maths co-processor. This, combined with a fast hard disk and an A2000, is a very impressive piece of kit, as we were all to discover later. The A2620 is available 'now'; other forthcoming hardware was also spoken of. To respect Commodore's wishes I can't give too much away, but main development areas are higher resolution monitors, very powerful video hardware and a way for A500 owners to upgrade their machines without buying an A2000.

The enhanced chip set (ECS) was also discussed. The chips in question include Fat Agnus, Denise and Gary. As well as doubling the 512k graphics chip memory limit, they offer new hi-res screen modes (though some require a very expensive monitor) and combine PAL and NTSC screen modes on one chip. Which existing Amiga models will be able to benefit from the ECS was not stated.

### Works today, won't tomorrow

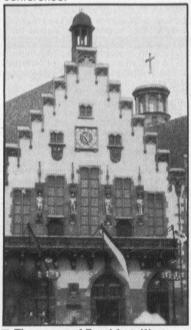
With the increasing variety of firmware and hardware versions in the Amiga market, software compatibility was often discussed. Certain programs are likely to malfunction on the more powerful Amigas – the main culprits are sloppily-written boot sectors on games; Jez San was used as the example others should follow. The *Starglider 2* boot sectors work on all Amigas, present and future. Programs which directly access the ROM suddenly stop working under 1.3, though most programs that do are apparently viruses.

### Jamming sessions

The conference notes make the complete ROM Kernel Manual set seem pocket-sized; they came in the biggest ring binder I've ever seen. Most of the speakers were Americans who have worked on the current Amigas and are now working on the next generation. The best individual speaker was Jim Macraz, the Californian responsible for Intuition since version 1.1.

One arranged-at-the-last-minute session was presented by Motorola Germany which examined the existing 68000 chip family, the 88000 series of RISC chips and gave some details of the 68040. The '040 is a much faster version of the '030 with built-in floating point and lots of cache.

The most popular area was the computer room; an area with around fifteen souped-up A2000s and a similar number of usable A500s (that is, machines with extra RAM and floppy). The 68020s and fast memory combination broke quite a few programs, mainly games. Despite the presence of all these machines and the numbers of people using them, I didn't hear of one reported virus during the conference. The common problem was typing on a German keyboard. Try a `setmap d` to see what I mean! Commodore themselves showed no pre-release hardware or software during the conference.



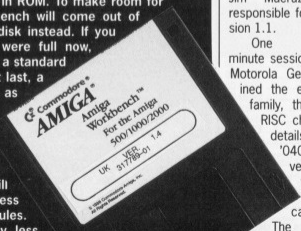
■ ***The venue of Frankfurt, West Germany, was chosen for the second Amiga Developer's Conference for a simple reason: Germany is the biggest Amiga market and Frankfurt is the home of Commodore Germany.***

One evening an enterprising young German turned up and started selling complete 1.2 ROM disassemblies. The listing is heavily commented, though in German. Also floating around was a pirate copy of the all-new 1989 *ROM Kernel Manual Volume 2*, much to its authors' amazement.

## WORKBENCH 1.4

**Most Commodore-originated software talk was of Kickstart 1.4, though it is still very early days yet. A few things will be in there for sure: ECS support and other new screen modes, long overdue changes to Workbench, and the inclusion of colour fonts and FastFonts in ROM. To make room for all this, the rest of Workbench will come out of ROM and be provided on disk instead. If you thought Workbench disks were full now, you ain't seen nothin' yet! If a standard can be decided on then, at last, a file requester will go in as well. Oh yes, and some bugs will be fixed too.**

**There was a little talk of Kickstart 1.5, mainly concerned with fonts and how programs will suddenly stop working unless developers follow the rules. Much of this is caused by less than ideal code in the original graphics library which is now being corrected.**




■ *No, it's only a fake! You'll be lucky to see Workbench 1.4 this year.*

# HiSoft BASIC for the Amiga

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For larger programs and for those with strong editor preferences we also supply an editor-less compiler for traditional disk-to-disk compilation methods.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ABS | AND | APPEND | AREA | AREAFILL | AS | ASC | ATN |
| BAR | BASE | BEEP | BIN$ | BLOAD | BREAK | BSAVE | CALL |
| CALLS | CASE | CDBL | CHAIN | CHDIR | CHR$ | CINT | CIRCLE |
| CLEAR | CLNG | CLOSE | CLS | COLLISION | COLOR | COMMAND$ | |
| COMMON | CONST | COS | CSNG | CSRLIN | CVD | CVI | CVL |
| CVS | CVSIEEE | DATA | DATE$ | DECLARE | DECR | DEF | DEFDBL |
| DEFINT | DEFLNG | DEFSNG | DEFSTR | DIM | DO | ELLIPSE | ELSE |
| ELSEIF | END | EOF | EQV | ERASE | ERL | ERR | ERROR |
| EXIT | EXP | FEXISTS | FIELD | FILES | FIX | FOR | FRE |
| FUNCTION | GET | GOSUB | GOTO | HEX$ | IF | IMP | INCR |
| INKEY$ | INPUT | INPUT$ | INSTR | INT | KILL | LBOUND | LCASE$ |
| LEFT$ | LEN | LET | LIBRARY | LINE | LOC | LOCAL | LOCATE |
| LOF | LOG | LOG10 | LOG2 | LOOP | LPOS | LPRINT | LSET |
| MENU | MID$ | MKD$ | MKDIR | MKI$ | MKIEEE$ | MKL$ | MKS$ |
| MOD | MOUSE | NAME | NEXT | NOT | OBJECT.xx | OCT$ | OFF |
| ON | OPEN | OPTION | OR | OUTPUT | PAINT | PALETTE | PATTERN |
| PCIRCLE | PEEK | PEEKB | PEEKL | PEEKW | PELLIPSE | POINT | POKE |
| POKEB | POKEL | POKEW | POS | PRESET | PRINT | PSET | PTAB |
| PUT | RANDOM | RANDOMIZE | | READ | REDIM | REM | REMAINDER |
| REPEAT | RESET | RESTORE | RESUME | RETURN | RIGHT$ | RMDIR | RND |
| RSET | RUN | SADD | SAY | SCREEN | SCROLL | SELECT | SGN |
| SHARED | SIN | SLEEP | SOUND | SPACE$ | SPC | SQR | STATIC |
| STEP | STICK | STOP | STR$ | STRIG | STRING$ | SUB | SWAP |
| SYSTAB | SYSTEM | TAB | TAN | THEN | TIME$ | TIMER | TO |
| TRANSLATE$ | | TROFF | TRON | UBOUND | UCASE$ | UNTIL | USING |
| VAL | VARPTR | VARPTRS | WAIT | WAVE | WEND | WHILE | WIDTH |
| WINDOW | WRITE | XOR | | | | | |

HiSoft BASIC - Reserved Words

**HiSoft BASIC** is a no-limits language; string variables may be up to 16Mbytes in length and there are no limits on array sizes either (subject to available memory). Code generated is fully 68010/020/030 compatible.

Compiled programs have no run-time overhead; all compiled programs share an Amiga library. which may be distributed with programs without charge. Compiled programs multi-task, of course, and as they all share the same library, memory usage and disk space is kept to a minimum. There is also an option to produce completely stand-alone programs which include only as much of the library as they need.

***HiSoft BASIC** - now BASIC programming on the Amiga has come of age.*

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- ✓ full recursion in sub-programs and functions plus local and global variables, arrays as parameters,
- ✓ 5 types of variable, integers, long integers, single- and double-precision floats and strings of any size,
- ✓ no limits; no program size limit and no variable size limits,
- ✓ interactive environment; invoke the compiler from the easy-to-use Intuition editor and all errors will be reported, in English, giving you the option to go straight back to the editor for correction or to carry on compiling. You can run your program from the editor so it's just like using an interpreter - but faster!
- ✓ power features like: include symbolic debug, exploit maths co-processors and much more.

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| | |
|---|---|
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| | |
|---|---|
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| **HiSoft BASIC** ST | £79.95 |
| **HiSoft Power BASIC** ST | £49.95 |
| **TurboST** - the software blitter | £39.95 |
| **HiSoft WERCS** resource editor | £29.95 |
| **FTL Modula-2 Developer** | £99.95 |
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REVIEW

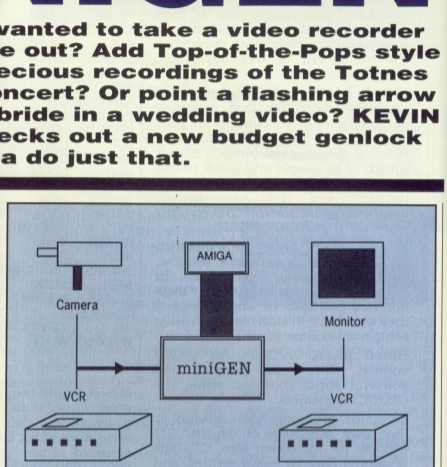
# MINIGEN

**Have you ever wanted to take a video recorder and turn it inside out? Add Top-of-the-Pops style titles to your precious recordings of the Totnes Tornadoes in concert? Or point a flashing arrow at the blushing bride in a wedding video? KEVIN COVERDALE checks out a new budget genlock to let your Amiga do just that.**

**MINIGEN**
**£113.85 ■ All Amigas ■ Applied Systems Developments Ltd, Queensway Business Centre, Brigg Road, Scunthorpe DN16 3RT (0724 280222)**

Nearly three years ago Channel 4 burst onto our small screens with *The Chart Show*, a pop programme which used a system that could be linked up with a computer and display computer graphics or text on top of a video image. The system which they used to perform this task was a genlock.

■ *The* miniGEN *itself looks very similar to the Amiga's modulator case but the noticeable differences are that it's been moulded in a shade of light yellow and has a small toggle switch on the top labeled 'Mixed', 'Graphics' & 'Picture'. At the back are two phono sockets, one marked 'Video Out' and the other 'Video In'.*




■ *Connecting the* miniGEN *could not be simpler, it's exactly the same as if you were copying your favourite video. Take the Video Out from the first video recorder or camcorder to Video In on the* miniGEN*, and then Video Out from the* miniGEN *to Video In on the second video recorder, and from there out to a television or monitor.*

As the years have gone by, so costs have fallen, and now that same technology is available to all Amiga users at around £100. So what can you actually do with it?

### Let's go

For £99 plus Very Annoying Tax you get a *miniGEN* which is the genlock hardware, an Amiga floppy disk and a four page manual which tells you how to set up the *miniGEN*, and a few technical details about the unit.

Making the connections is not easy but once all these have been checked it's then a case of having to boot up the demo disk to check that the unit works properly.

Supplied on the disk are four programs two of which are test cards – one in low res and the other in high, as well as two other programs which consist of a rolling demo and a simple video titler.

The test program itself displays a test card (similar to the one they use on the BBC) on the screen and once *miniGEN*'s selector switch has been moved to its 'Mixed' position, the picture from the video will be displayed in the centre of the card. (That's if all the connections are correct to and from the *miniGEN*).

The first one of the test card programs is a rolling demonstration which starts off with 'miniGEN' in large letters at the top of the screen, and below are the addresses of both ASD and Ariadne (the software house who wrote all the programs on the disk). The second program is more interesting, being a simple video titler similar in style to Zuma's *TV-Text*. Upon loading, the screen clears and the program waits for you to press a function key. When a key is pressed up pops an Amiga-generated title over your video image, of Jnr's First Birthday, Marvellous Mama along with a few other all-American favourites. When you're bored of pressing the function keys, escape lets you leave the program and go back into workbench.

### The software options

You don't really need special video software to be able to mix video graphics and Amiga stills. By using *Deluxe Paint* you can have a go at producing some video titles the

cheap way

First of all it's a case of booting up a copy of *Deluxe Paint* and then doing a Clear Screen to leave the black background as it is. The reason for this will become obvious in a little while. Having decided what title you want to put onto your video (In this case the *ST Amiga Format* logo), you then select the colour of your choice. For the *Format* logo you'll need tasteful pastel shades of pale blue, deep red, white, deep blue and deep grey.

But wait! "The magazine's logo uses black, not deep grey?" you're asking yourself. The reason of course is that the picture background is black, so deep grey is the closest you can get while still being a distinct colour.

Now whenever you display this picture via *miniGEN* onto your TV, any black areas of the Amiga's picture are replaced by the current image the video recorder is showing. So if you tried to put pure black into a title or screen dump, the result would be that those areas would not be black at all, but lurid animated video images. To compensate for this you have to use dark grey instead of black in your Amiga artwork – annoying, but not too noticeable really.

### In action

One of the many good points about *miniGEN* is that you can flick between displaying your Amiga screen only, your video image only or the genlocked combination, all on the one TV screen.

For instance, if you are trying to draw a title in *Deluxe Paint* and you need to line it up accurately, you can set the video recorder going and flick between video and Amiga displays while you adjust its position on screen. This is done by using *miniGEN*'s selector switch on its 'Mixed' mode, lining up the text from within *Deluxe Paint* and then flicking back to the 'Graphics' mode.

Once you're satisfied with your title and have saved it onto disk it's then onto the tricky bit. How do you get the titles which were done using *Deluxe Paint* onto tape? There are a number of ways in which this can be done – either by purchasing a video editing package (*Deluxe Video*, *Deluxe Productions*, or *Fantavision*) or by getting hold of a slideshow program.

Slideshow programs are about the cheapest way of using a genlock system to title your videos. Just make sure the Amiga is displaying a screen totally black apart from the titles to be displayed, and then arrange your slideshow so that you can progress from one screen to the next at the press of a key. Switch the genlock to 'Mixed', and run the slides manually to coincide with the relevant parts of the video. Record the genlock's output on a second video recorder, and Bob's your uncle.

With *Deluxe Vdeo*, *Deluxe Productions* and *Fantavision* there will be relevant sections in their manuals for using a genlock system. These more sophisticated programs usually allow you to write a timed script to ensure that the Amiga screen display synchronises with your video. You can then slow down or speed up the rate at which the titles are displayed.

### Your own studio

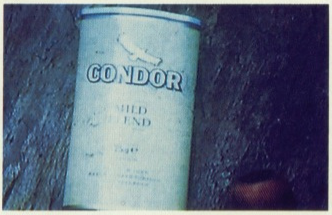
You've seen the *Chart Show* and you've decided to set up your own video editing studio. How much would it cost you? You're three quarters of the way there because you already have an Amiga. All you need now is the genlock, two video recorders and some controlling software. We'll start off with the genlock.

Prices for genlocks vary considerably. *MiniGEN* is the cheapest, then prices rise to £260 for the Rendal 8802 (Amiga Centre Scotland). And if you think that's a lot to pay for a genlock, things get worse if you want a broadcast quality unit – you would probably end up paying over £500.

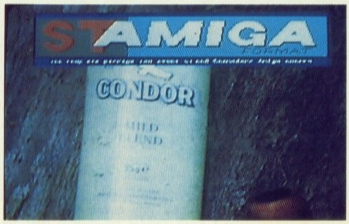
When buying a genlock think about what you are going to be using it for. Are you going to set up your own video company or are you just using it to title your home videos? It's not worth buying a £260 genlock only to put "Hello, it's me on the telly" onto your favourite video of you in front of your computer.

Let's say you've got the genlock, and you're after two video recorders for the playback and re-recording. The thing to remember here is that videos come in all types of specifications

▲ *Our humble Format logo heads towards mega-stardom. To check out the miniGen we first took a simple Deluxe Paint screen of the logo...*




▲ *Then, with nothing better to do than watching TV adverts, we took this signal and prepared it for the most dramtic transformation ever...*




▲ *There, what more could you want? ST Amiga Format goes into the movies. Eat your heart out Terry Wogan.*

## WHAT NO ST!

**At the time of writing none of the Amiga genlock hardware companies had produced a version which was on sale for our humble friend the ST. But there are prototypes which are on test at the moment, and these should be with you in the near future.**

## WHAT NO LEADS!

**Be warned that there are no connection leads supplied with the miniGEN. The reason, apart from obvious cost-cutting, is that there are so many different types of VCR on the market. The cost of producing multi-purpose leads would put the price of the unit up, and we don't want that, do we?**

**But there is a solution. Just pop into any TV/video shop and explain what you want them to. Or if you are an electronics whizzkid, why not build the leads yourself? All you need are two screened leads terminating one end with a phono plug and the other end with a connector which will fit your video or camcorder.**

## WHAT DOES IT DO?

**To get genlock up and running on a system, you must have a machine which is capable of producing an RGB signal from one of its user ports. (Both the Amiga and ST produce RGB signals from their 'Monitor' sockets as standard). The genlock then mixes the computer's image with the video's by replacing everything black in the Amiga's screen with the live video picture. You get an effect which looks as though the Amiga screen has been superimposed on the video image.**

**Technically, because the refresher rates of the computer and the output device are completely different, the genlock has to alter the speed of the input's refresher rate to coincide with the computer's. Once this has been done the two images are then mixed by one of the video chips inside the genlock, and this is then sent to an output device (a second video recorder or monitor)**

## ANATOMY OF A VIDEO

■ *The* miniGen *is reasonably cheap and as such, the quality wouldn't really be good enough for use in broadcasting. However, for adding titles to your home movies, sticking messages over the top of your favourite episode of* EastEnders *or adding your name to the cast list of* Neighbours, *it's ideal. To test it out we put the* miniGen *through its paces under control from* Deluxe Video *. Here are a few stills from the resulting oscar-winning productions.*

and prices. *Don't* go out and get a £399 system which can do everything. Instead, try to get two simple videos which have a clear record and play-back picture, a good freeze frame, and if possible get them with 'SCART' sockets (a standard socket like the Amiga uses to connect to its monitor).

For this review, two Amstrad VCR6000 video recorders were used to test *miniGEN* out, with very pleasing results. A word of warning though: don't use Amstrads TVR2 or TVR3 'Televideos'. For some strange reason the picture quality from the Amiga was terrible, and while playing back a previously recorded tape, the picture was always bent to one side. These machines are only for home video use and not for use with the Amiga or ST.

Once the hardware has been sorted out, what sort of software should you use that will run with *miniGen* and give good results?

There's a vast range of genlock software which is 100 per cent compatible with *miniGEN*, and the range is growing very quickly. Some of the more popular commercial titles for the Amiga are: Zuma's *TV-Text* and *TV-Show* (HB Marketing) – both are £39.95; *Fantavision* (Amiga Centre Scotland) – £34.95; Electronic Arts' *Deluxe Video* – £69.95; and EA's *Deluxe Productions* is one of the more expensive pieces software at £139.95, needing 1MB to run as well.

Once again the software, like the hardware, needs careful consideration. Ask yourself, "What do I want to do with the genlock?" Do you want special effects, or just to title your home videos?

For video titling use *TV-Text*. This is ideal for that particular area, but if you want to do wipes, flips and other special effects it's worth looking at *Deluxe Video* or *Production*.

### The final marks

*MiniGen's* manual could be made considerably more user–friendly incluiding something like a step-by-step walk through guide on how to set up the unit and get it up and running, or even better a rolling demo on the disk giving details on how to wire up and use *miniGEN*. But instead, all you get is four sheets of photocopied paper (one of which is photocopied twice) on how to set the unit up with a little boffin's technical information thrown in for good measure.

Another point worth mentioning is the fact that there's no information on how to use the disk which is supplied with *miniGEN*. It takes quite some time to figure out what the programs are used for and although the test cards are useful diagnostics, the other programs are demonstrations only and seem to be on the disk simply as adverts for Ariadne.

The *miniGen* itself is a well built unit and works efficiently with Electronic Arts' *Deluxe Video*. The only problems with it were that the heat which was coming from inside the *miniGEN* tended to make the case a little too warm for comfort, and the size of the video mixer toggle switch was a little too small. It might be an idea for ASD to put a larger toggle switch onto the unit and add a couple more vents to the case so that it can cool down a bit better.

Overall there was very little to be faulted with the unit apart from the manual and the disk, the price makes it a winner. Unlike Victor "I liked it so much I bought the company" Kiam, I'll just settle for buying myself one and leave all the hard work to the lads at ASD. ■

**features** 0 1 2 3 4 5

**performance** 0 1 2 3 4 5

**ease of use** 0 1 2 3 4 5

**manuals** 0 1 2 3 4 5

**format value** 0 1 2 3 4 5

## MINIGEN

### for

- It's resonably cheap
- Easy to use once you've managed to set it all up
- Vast range of software already available.

### against

- No leads supplied
- Poor manual
- Poor introduction disk

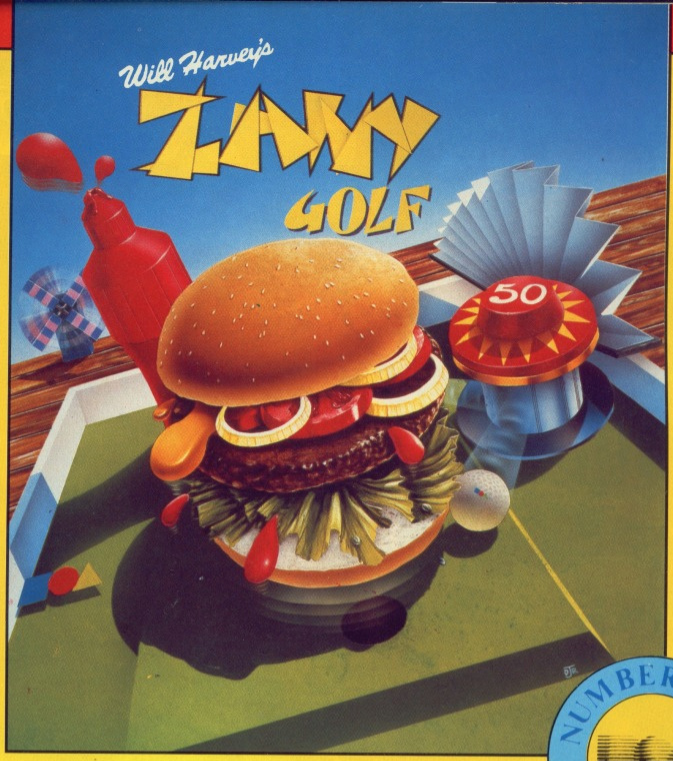
## THE PROFESSIONAL DIMENSION

**On Channel 4's *Chart Show*, a number of Amiga 2000s are used along with broadcast quality genlocks and about 10-20 megabytes of memory. These are used in conjunction with a video mixing desk with many other extras which are needed to produce the finished effects on the programme.**

**The differences between a 'broadcast quality' genlock and a standard genlock are that one costs a lot more money than the other. The broadcast quality version can produce picture-in-picture and other special effects, it has a higher resolution so that it can be used in conjunction with television cameras and video mixing desks. There's one place though where you'll never see a broadcast quality genlock, and that's your local computer shop. That's unless you order it especially (which is likely make you fthe manager's best friend for life).**

**The only place where you can see this type of genlock in use is within the broadcasting industry (television and advertising companies) who have the money to purchase and use them.**

AMIGA

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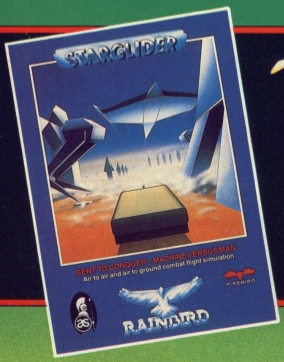
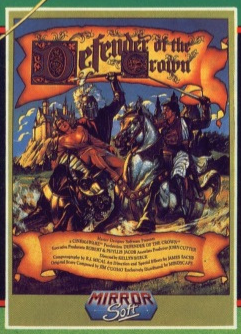
# T'R I'A'D

## VOLUME · 1



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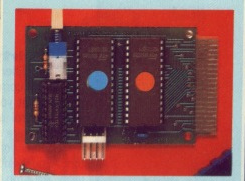
HARDWARE



■ *Inside and out – the Multiface, MULTIpurpose interFACE, began life on the ZX Spectrum five years ago. Since then it has mutated onto the Spectrum Plus 2, Plus 3 and Amstrad CPC. Now it's available for the ST. The hardware widget does a similar job on all computers: it lets you halt any program in memory and then inspect, alter or save memory contents.*

# MULTIFACE ST

**MULTIFACE**
**£49.95, £10 extra for Disk Manager ■ All STs, Amiga version due ■ Romantic Robot, 54 Deanscroft Ave, London, NW9 8EN (01-200 8870)**

**Something wonderful has happened... Romantic Robot has released a gadget that can freeze almost any ST program, games and all. After that there's no limit to what you can do. RICHARD MONTEIRO goes hacking.**

It's an escalating struggle – pirate versus copy protector – which benefits nobody in the end. You lose out as you have to pay inflated software prices (protection cost) and you're deprived of backing up precious programs. Both hardware and software solutions exist to counter the backup problem, but frankly these devices are dressed-up pirating devices whose success rate is very low. Enter Romantic Robot's *Multiface*. Yes, it copies virtually all software. No, it can't be used by the unscrupulous – the *Multiface* hardware must be plugged in before you can reload saved programs, so only *you* can use it.

*Multiface ST* is a matchbox-size device which fits into the Atari's cartridge port. Apart from a push-button and a wire with a connector for plugging into the ST's monitor socket, there's nothing appearance-wise to get excited about. The connector for inserting into the monitor socket has a 'through' port so you can still hook a monochrome or colour monitor to the computer. The cartridge interface has no through slot which means you can't have other gadgets attached to the port at the same time as the *Multiface*.

When you switch on your ST the *Multiface* alters the initial startup-sequence. A small menu appears at the bottom of the screen before the normal GEM or game startup process is allowed to begin. From here you can boot either from drive A or drive B (or a hard disk assuming that you have one fitted), jump to the main menu, or enter the Disk Organiser. All the *Multiface*'s software is held on

## LOOK OUT

**An Amiga *Multiface* is underway. Already the Toolkit has been written. Alex Goldsheider, Romantic Robot's MD, is hoping for an April launch. The ST *Multiface* will be enhanced during the year. Possible enhancements include better success rate, restyled memory editing, bit-copier within the Disk Organizer and much more. There's also the disassembler ROM to look forward to – this £19.95 addition will let you disassemble programs stopped with the *Multiface*.**

HARDWARE

## HACKING TIPS

**Many games require passwords for you to get to higher levels. Generally these are stored in ASCII. Take Impact, for instance, you are told one password: USER. Simply search for the occurrence of USER between memory locations 0 and 7FFFF (lower and upper memory limits on a 520). When you find the password, you will discover the other passwords are held in the same area. This technique will work with many games. Lives are trickier. If you are given three lives then search for the byte 03 – you will find many. Change each one individually and see if it affects your lives.**

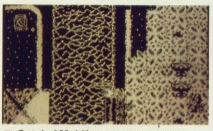
### Dirty deeds

Pressing either A or B autoboots a disk in the corresponding drive. From the moment you tap the key, the ST takes control and behaves as if the *Multiface* were not present. It remains hidden until you press its magic button. Almost any application, game or utility will stop at this point and control will pass to the *Multiface*. Programs can be stopped at any time, so you could play to the 12th level in *Arkanoid II* or enter the day's transactions into *Home Accounts* before hitting the button.

When you press the button the screen turns black and white and there is a pause, anything from under a second to over 15 seconds. The length of the pause depends on the amount of possible compressing; compression is necessary because the *Multiface* must save the 68000 registers, sound, screen and keyboard parameters along with the relevant bits of RAM. Additionally the device requires some screen RAM for displaying its menus.

Occasionally, when used with a 520, the *Multiface* won't gain control of a program. The usual compression

■ ***Flying Shark running normally... the Multiface is waiting to pounce.***



■ ***Gotcha! Multiface starts to compress the Flying Shark data and keeps track of 68000 registers, sound, screen and keyboard parameters.***

■ ***Inside Flying Shark. What happens if those bytes are changed...?***

contortions will be observed before you're thrown back into the program. This happens only if the *Multiface* can't find enough breathing space – that is, enough memory for it to live alongside the resident program. 1040s and Mega STs don't suffer this problem.

Romantic Robot's device works by interrupting the currently active program and telling the processor that it is the most important task. However, a few games prevent this... at present.

Of the programs wihich we tested with the *Multiface* we found *Better Dead Than Alien, Fleet Street Publisher, GFA Basic V3, Heroes of the Lance, KSpread3, Spectrum 512* and *Superman* to work on any ST. *Flying Shark* and *Protext* could only be halted on a machine with more than 1Mbyte. *Starglider* and *Thunderblade* couldn't be stopped.

### In deep

The options Save, Load, Format, Tool and Print are all available from the main menu. There are also facilities for resuming a halted program and viewing the screen at the point where it was stopped (great for screenshots).

Save lets you save a snapshot of the computer memory or the screen at the instant the button was pressed. The image can be saved to any disk drive – squeezing 512K of RAM data along with screen, sound and keyboard parameters is tough going on a single sided disk; for this reason it is possible to save over several disks. You could, if you were inclined, save the file over 254 disks!

Choosing 'Tool' plonks you into a memory editor. It's a hacker's dream with facilities for moving quickly to specific RAM or ROM addresses; scrolling at various speeds through memory; editing any RAM location or 68000 register; editing, printing or viewing memory in hexadecimal, ASCII or decimal; filling an area of memory with a pattern of up to 10 bytes; searching for and replacing a sequence of 10 bytes or 20 ASCII characters; loading or saving a block of memory.

Finally there's Print. This dumps the screen to an Epson compatible printer.

### Game over

There are loads of memory monitors for the ST, but how many will allow you to inspect heavily-protected software? None. The *Multiface* is unique in being able to freeze almost any program and then let you rummage around in memory changing whatever you like. This makes it excellent for finding passwords and pokes hidden inside games.

There aren't any serious complaints about the *Multiface;* the search and replace is a bit slow, the editing keystrokes are poorly chosen, and the manual lacks the in-depth information necessary for newcomers to memory editors. But apart from that, the device is an incredible piece of wizardry.

For purely backup purposes the *Multiface* is definitely in a league all of its own. While it doesn't offer (or even claim) a 100% success rate, you won't find a software package or hardware device which can cope with eve half as much as Romantic Robot's clever little gadget. ■

## DISK ORGANIZER

**If you add £10 to the *Multiface*'s £49.95 price you get the Disk Organizer software (which is available from the *Multiface*'s welcome menu or the cartridge window). This software sits on ROM alongside the *Multiface* code. Disk Organizer is a file management system that lets you copy, delete, rename and sort files and folders. You might argue that GEM already provides those facilities. Indeed it does. However, the Organizer has benefits...**

**All available memory is used as a buffer for file copying. When doing multiple file copying as many files as possible are crammed into RAM before you're requested to swap disks – great for single disk drive machines. The entire directory of the source disk is kept in RAM making it unnecessary to the read the disk each time a folder is opened or closed. The combined result is faster copying and fewer disk swaps.**

**The total size of selected files and folders – and the amount of free space on each disk in each drive – is shown. This means you can tell whether or not there is sufficient space on the destination drive before you start copying.**

**Files can be displayed in the order in which they appear in the disk directory. This can be handy for working out the order in which PRG files are executed inside the AUTO folder.**

**features** 0 1 2 3 4 5

**performance** 0 1 2 3 4 5

**ease of use** 0 1 2 3 4 5

**manuals** 0 1 2 3 4 5

**format value** 0 1 2 3 4 5

### for

- **Lets you inspect, edit or save almost any program**
- **Powerful memory editor**
- **Uses none of the ST's RAM**
- **Disk Organizer has bet terfile management than GEM**

### against

- **Poor editing keys**
- **Manual unhelpful to beginners**

## ARE BACKUPS LEGAL?

**In November of last year the Royal Assent was given to the Copyright Design and Patents Bill. Big deal – well, it could be if FAST (Federation Against Software Theft) think you're up to something: selling copied software for instance. The question for users is does using *Multiface* put you in line for a copyright rap? Is making backups for your own use legal?**

**In the US there's a law that states you can make a backup of software for your own use without fear of being prosecuted. Not so in Britain. You may have noticed some packages encouraging you to backup the software. Unfortunately the majority carries no such message. With such software you'll have to phone the manufacturer and ask permission. Eventually, reckons Bob Hay of FAST, "all manufacturers will have to make their position quite clear – that is, whether you can or can't backup the software."**

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Atari ST screen shots

# The word is PROTEXT...

## Professional word processing for the Atari ST and Amiga

PROTEXT is very fast! Unlike the majority of Amiga and ST word processors PROTEXT scrolls very quickly and redraws the screen in next to no time. We have achieved this by developing our own screen handling routines - much faster than the standard ones.

*"Protext - the real joy comes only from using it. I can say without any fear of contradiction it is the best word processor available at the price, in my view, at any price in fact." AUI 3/89*

Protext is the result of 4 years of development. Unlike the majority of competitive programs Protext is 100% British and is being developed further all the time in response to the needs of British users. Registered users are always informed when upgrades are available.

Atari ST: Unlike its competitors, Protext does not use Gem. The scrolling speed is four times faster than that of Gem based word processors. Yet Protext is still WYSIWYG and still allows access to desktop accessories.

*"Wins hands down as the all round package" ST USER 8/88*

Amiga: PROTEXT uses the Amiga 'WIMP' interface fully and supports pull down menus, use of the mouse for cursor movement, block copying and window resizing. Protext is fully compatible with the Amiga's multi-tasking operating system and makes full use of Amiga Preferences settings.

*"Protext really is the best text processor on the Amiga" ST/AMIGA FORMAT 2/89*

### A brief summary of some of Protext's features ...

| | |
|---|---|
| Background printing | edit/create further files while printer is busy |
| Box manipulation | move, copy, or delete any box as well as blocks |
| Configuration | set over 50 options to your own preferences using our menu driven configuration program |
| Dictionaries | add/delete words to/from supplied 70000 word dictionary. Create your own personal dictionaries. |
| Disc utilities | copy files, erase, rename, type, create directory, change directory, remove directory, catalogue files |
| Exec files | store sequences of commands in files for easy use |
| File conversion | flexible file conversion utility for other WP files |
| Find & replace | very powerful and fast with many options. |
| Foreign languages | 10 built in keyboard languages. Easy to use accented letters: ä æ ç ö ü è é ß à ù ô ð ñ etc. |
| Formatting | auto-reformat; reformat para, block or whole text. |
| Headers & footers | up to 9 lines of text, different even/odd headers and footers, auto page numbering, footnotes. |
| Help | edit and command help available on-screen |
| Keyboard macros | string any sequence of letters together on a single key e.g. "Yours sincerely". Load and save macro key files. Special recording mode as you type. |
| Line drawing | ideal for drawing lines (incl. corners) around text |
| Line spacing | variable in half lines, including 0, ½, 1, 1½, 2, 2½, 3 |
| Printer support | works with any parallel or serial printer. Wide range of printer drivers supplied, incl. lasers and 24-pin printers; or create your own drivers or edit ours. |
| Printing styles | bold, condensed, double strike, elite, italics, enlarged, pica, NLQ, subscript, superscript, microspacing, proportional spacing, any other printer fonts |
| Program mode | suppresses formatting; auto-indent; set tab stops |
| Proportional text | will print proportionally spaced, right justified text |
| Quick dictionary | dictionary held in memory is very fast |
| Ruler lines | any number of ruler lines to define document layout left/right margins and normal/decimal tab stops |
| Spelling checker | check from disc or current text, as you type o afterwards. Suggests alternative spellings. Works with foreign languages |
| Symbols | full character set available on screen. Characte symbols may be redefined |
| Time and date | time shown on screen. Use date within document |
| Tutorial files | help you to start using Protext |
| Two file editing | two documents in memory, copy text between them |
| Typewriter mode | direct printing for envelopes etc. |
| Undelete | retrieve text deleted in error |
| Word count | quick count at any time, whole text or just a block |
| Word puzzles | anagram and crossword solving features |
| Wysiwyg | on-screen bold, underline, italics |

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**If you want a fast efficient program for processing words, get PROTEXT**

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**Some more quotes from reviews:**

*"Protext is probably the most powerful word processor on the Atari ST"* ST USER 4/88

*"Protext deserves to be the system by which all other word processors are judged ... Arnor has given the market a superb product"* YOUR COMPUTER

*"Arnor's Protext 4 is just about unbeatable ... this really is an excellent program"* PC AMSTRAD

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|---|---|---|
| Protext v4 | £99.95 | Protext is also available for IBM PC/XT/AT, PS/2 and compatibles at the same price. Please state whether 5¼" or 3½" discs are required. |
| Protext Filer | £24.95 | |
| Protext Office | £34.95 | |
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# THE INTERACTION GAME

FUTURES

**The need to communicate quickly with computers is becoming ever more apparent. The businessman has long known that time is money; typing instructions at a keyboard is no way to make money or save time. Speech is the fastest method of communication. Take that one step further – thought – and apply that to computers. Things really will start moving. The days of the keyboard are numbered as RICHARD MONTEIRO discovers.**

■ *Go ahead, make my day. Firefox is the most powerful fighter plane in the world. Why, one shot from its twin-firing forward cannons, thought-launched SMART homing missiles or explosive decoy flares would blow your head clean off.*

*Head-up displays, eyeball-linked tracking mechanisms, thought control – the systems that Clint used to control his plane in the film are not entirely science fictional. In fact, advanced methods of interfacing to computers are already here, and look set to revolutionise the way we work.*

*I know what you're thinking... have I fired all of 'em or have I got one left. Ya know, in all this confusion I forgot myself. Tell me, punk, do you feel lucky? Well... do ya?*

If you want your computer to do something other than stare back blankly, you must inform it of the process you would like it to carry out. Obvious, really, but also tedious. Think of all the time you waste moving a pointer, clicking on icons and dragging objects. And that's just to load an application! Once inside the package, there are countless keystrokes or menus to traverse before you can get the software to do what you want.

A form of input is required that removes the need for thinking about mundane, non-productive tasks like which icon must be clicked to get the machine to do job A, which keys must be pressed to enact job B and even which drive must be selected to save job C.

Suppose you use a word processor for an hour – between 10% and 20% of that time will be wasted moving around menus or pressing key combinations. That figure can shoot up to 50% if you're not accustomed to the package. The nett result is that your brain shares its time between coping with crass controls and being creative. Creativity loses out.

WIMP environments like GEM and Workbench are a great step forward compared to MS-DOS, CP/M or – going further back – punch card. WIMP systems are designed to remove as much of the unnecessary keyboard bashing as possible. But there's still room for improvement. Will there ever come a time when the keyboard can be disposed of? Will there come a time when you can speak, or simply think, and a computer will carry out your demands?

### Back in time

Very early computers were huge by today's standards and consisted of vacuum tubes and switches. One such machine was the ENIAC (circa 1946) – a 30-ton monster with 17,468 tubes and 6000 switches. RAM, of course, wasn't in existence then. Programming this Electronic Numerical Integrator And Calculator was a nightmare; the user had to change the external wiring manually – in much the same way as a telephone operator rearranges the plugs on a switchboard – to supply the machine with new instructions.

Thankfully communicating with machines didn't get any worse. Well, it couldn't. Computers started to appear with keyboards, albeit hexadecimal keypads. But these eventually evolved into QWERTY keyboards that we all know and... have to use.

The QWERTY keyboard is still the most widely used device for talking to the computer – even after 40 years of innovation. Mice, joysticks, graphics tablets, touch screens et al have been responsible for a migration away from the keyboard; but the process is unbelievably slow. Operating systems have to change radically before the keyboard can be shelved. It is far less taxing to roll an object over a desk surface, waggle a stick in any direction, or click a couple buttons than it is to tap something with over 50 keys.

### Play on states

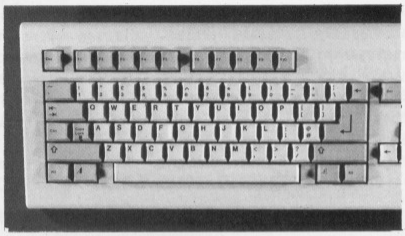
Talking to machines to get them to perform your desires is nothing new.

## WHAT THE QWERTY!!!

**Most new machine interfaces are designed to increase the speed and comfort of the operator – but the QWERTY keyboard layout we all use on our computers is a bit different.**

**When typewriters were invented last century they were slow mechanical beasts, and typists just went too fast for them, with the result that the key bars kept jamming. The key layout was changed to deliberately slow typists down – hence the infuriatingly perverse nature of the layout.**

**A newer alternative system is the Dvorak keyboard (no relation to the composer). This puts the keys in much more ergonomic places and fans say it can double typing speeds once you're used to it. But since it is so non-standard, no secretarial colleges will teach Dvorak typing. There's progress for you.**



## SOCK IT TO ME

**The first recorded use of punch cards in machinery was for controlling the Jacquard Loom in the early 1800s. This was designed by a Frenchman, Joseph Jacquard, and it could weave extremely complex patterns. So much for Jacquard's innovation – he ended up being chucked in the Rhone by workers fearful that his device would leave them out of a job.**

## IT'S IN THE OPERATING SYSTEM

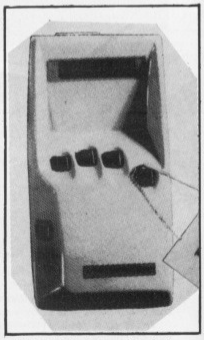
**Operating systems are to blame for the way we interface with machines. Most OSs are command-line based: Unix, CP/M, MS-DOS, Tripos, AmigaDOS. The trouble with CLIs is that a lot of obscure commands are required to be typed in to do the simplest of tasks. For instance, if you use AmigaDOS and wish to copy a file from disk A to RAM disk you could type something like `COPY DF0:FILENAME TO RAM:`. The equivalent operation could be carried from the Workbench simply by dragging the required file icon onto the RAM icon.**

**New operating systems aren't going to change radically in the next few years. There's the transputer operating system Helios, but that's not going to move you away from the keyboard. What's clever about Helios is that it can take an ordinary program (process) and distribute it among several transputer processors.**

**One recent development is the OS in the Linus computer system This allows you to communicate with the machine simply by writing commands onto a special pad. There's no keyboard. A typical WIMP system is used; when ASCII input is required a pop-up QWERTY keyboard is available. The machine is fully portable and very user friendly.**

**Joysticks in particular take more than their fair share of stick. It's hardly surprising considering the design of some of these gameplaying adjuncts. There's the *Stick* (a rod with a suction pad at one end and a firing button at the other), the *Terminator* (a hand grenade-shaped thing), *Trickstick*. The list really is endless.**

**Way back Spirit Software sold a plastic steering wheel with their *Formula* racing game for the Spectrum. This great device used to slide across the top row of keys depending on the direction you turned. However, the winner of the most crass input device goes to the ill-fated New Concepts who created *Surfchamp*. This incredible gadget consisted of a plastic fulcrum which fitted across the central key of the keyboard. Over this lay a small surfboard. The idea... yes, you've got it, was to ride the waves using your finger tips.**



***Although the Microwriter features less keys, you must learn a completely new method of typing – almost as strenuous as learning a new language. By pressing certain combinations of keys you can produce different characters.***

cntinued on page 26

IT'S WICKED!

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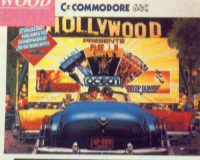

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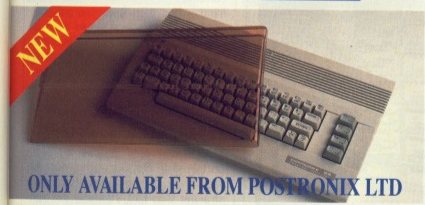


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Indeed, this black art stretches back to the early 1960s. The speech recognition process involves grabbing sound waves (a voice), storing the sound and comparing any incoming sound waves with whatever is stored in memory. Simple it may sound, simple it is not. Huge amounts of memory are required to store a significant number of sampled instructions and high processing speeds are needed to cope with shifting large amounts of data.

This relatively simple procedure of storing and comparing sound waves is old hat. Recent speech recognition techniques employ AI. Not only must the software be able to match incoming waves quickly and efficiently, but it must also be able to guess what the operator is trying to say when several words come in quick succession.

For some time the American airforce has been working on a retinal tracking system (RTS). At present this device comprises a huge helmet which the pilot wears. All important instrument readings are displayed on the inside of the helmet visor so that the pilot can keep tabs of the aircraft's progress while looking elsewhere – at the enemy for instance. The movement of the pilot's eyes are tracked by the circuitry in the helmet and relayed to the craft's computer. In the event that the helmet senses that the pilot is looking at a flight path of another plane, then the aircraft will go into pursuit mode and follow whatever the pilot is looking at. Naturally this sort of technology has a long way to go, and is still in early development.

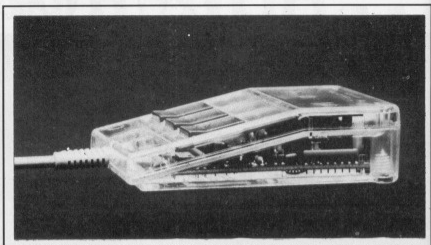
An off-shoot of RTS technology is a device for long distance drivers that fits to glass frames and checks to see that the driver's eyes are opened. If the device discovers that the drivers eyelids have drooped, an alarm is sounded. Effective.

### Shouting to the future

Very exciting things are going to happen in the next decade. With memory in personal machines increasing rapidly, it won't be long before a speech recognition OS will fit into games consoles. Imagine that. Instead of exercising your fingers, your vocal chords will take the punishment.

And after that? Thought waves of course. Just think (sorry) about it: you direct your thoughts towards the computer – or rather it reads your mind – and then it carries out your wishes. The machine would need to differentiate between instructions directed towards itself and passing thoughts; reasonable and unreasonable tasks. But that's something for the inventors of the system to worry about.

Don't discount the possibility of thought controlled devices; it's been portrayed in films enough times. As you know fiction often turns out stranger than fact. Probably the best known example is Firefox where Mitchell Gant, played by Clint Eastwood, steals a sophisticated thought-controlled warplane from Soviets. Not only did Clint have to concentrate hard to get the plane to do his will, but he also had to think in Russian! ■



■ *Even after 10 years of existence, the mouse is still the most popular input device after the keyboard. AMS can sell you a designer mouse, with see-through casing, if the fancy takes you.*

## OH THOSE MAGNIFICENT MEN

**Among the brilliant input inventions are a number of turkeys – completely brainless ideas that failed almost before they hit the drawing board. Here's a look at a few of the crackpot ideas that have made the computer industry what it is today, an interesting – if not amusing – place.**

**Remote control input devices were all the rage at one time. Apricot provided the greatest amusement with their infra red keyboard PCs. If anything got between the keyboard and the main unit then data would get lost. Perhaps more worrying was the fact that when two or more machines were in the same room, crosstalk was often experienced. You could be typing away at your machine only to find your text appearing on a machine belonging to someone else. Remote control mice have also been tried... and, largely, killed off.**

**Joysticks in particular take more than their fair share of stick. It's hardly surprising considering the design of some of these gameplaying adjuncts. There's the *Stick* (a rod with a suction pad at one end and a firing button at the other), the *Terminator* (a hand grenade-shaped thing), *Trickstick*. The list really is endless.**

**Way back Spirit Software sold a plastic steering wheel with their *Formula* racing game for the Spectrum. This great device used to slide across the top row of keys depending on the direction you turned. However, the winner of the most crass input device goes to the ill-fated New Concepts who created *Surfchamp*. This incredible gadget consisted of a plastic fulcrum which fitted across the central key of the keyboard. Over this lay a small surfboard. The idea... yes, you've got it, was to ride the waves using your finger tips.**

■ *After a paper was published by John von Neumann in 1946 describing how to build a computer that could store a program, the race was on. Cambridge Univeristy had EDSAC while Manchester had the Mark I (pictured above). The Mark I is generally credited with running the first computer program on the 21st of June 1948. Consultant to the project was Alan Turing, veteran of the MI5 wartime codebreaking team.*

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When you get your bank Statement or a balance from an autobank machine you can confirm it with PFM quickly and easily. Simply select PFM's unique "Auto Balance" option and type in the balance as given by the bank and PFM will attempt to balance and highlight entries that have not yet been processed through the bank.

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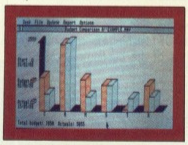

BUDGET COMPARISON BAR-GRAPH SHOWING BUDGETS & ACTUAL EXPENDITURE OR INCOME

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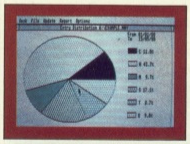
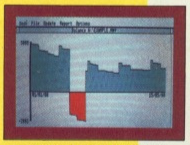


PIE CHART SHOWING SELECTED ENTRIES OVER CHOSEN DATES



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REVIEW

# IBM PC EMULATION

# ANYTHING YOU CA

**If you can't beat it, emulate it! We all know the ST and Amiga are the best computers you can get – but once in a while it would be nice to be able to use the vast range of software around for the other machines. With only a little effort you can get IBM PC, BEEB and MACINTOSH software up and running... in many cases better than the 'real thing'.**

Although the ST and Amiga have a lot going for them as computers in their own right, there are some things they can't do, like running many of the major business software packages. This is because by far the largest range of software is designed specifically for the IBM PC and its clones.

## PC DITTO

**£79.95 ■ All STs ■ Power Computing, 44a Stanley Street, Bedford MK41 7RW (0234 273000)**

This software emulator for the ST is supplied as a single 3.5" disk, with a thin but adequate manual. A configuration menu lets you select the type of PC screen (colour or mono), the number and type of drives and the type of PC mouse the program should emulate. The colour emulation is only 'CGA' (640x200 pixel resolution), which means for the most part any graphics will only appear in black, white, cyan and magenta!

You don't need any additional hardware to run *PC Ditto*, as the program will happily use your current monitor, serial and parallel ports and disk drive. The system expects the disk drive to be single sided 360K, the PC standard. If you have a double-sided drive fitted to your ST you can persuade MS-DOS to read that too.

Your main problem is to get hold of an MS-DOS boot disk. Since this is copyright PC software, *PC Ditto* doesn't include it. You'll have to find somebody with a PC and, er..., borrow it.

The first thing you notice about *PC Ditto* is that it's very slow. This is hardly surprising considering how software emulation works (see the box). In fact using the Norton SI program, which is commonly used to assess the speed of PCs, the ST with *PC Ditto* clocks in at 0.3, ie. less than one third the speed of a standard PC/XT.

In its favour, *PC Ditto* runs virtually any piece of PC software which fits in the available memory (most PCs are now supplied with at least 640K, so a 1040ST or Mega is recommended). Most of the big-name programs like WordStar, dBase and Lotus 1-2-3 are listed as working, and we tested normally problematic memory resident programs (like Desk Accessories under GEM) without trouble.

*PC Ditto* is a compromise solution that will suit for certain jobs but not for others. If your main task is not processor intensive; if, for instance, you intend to use your ST to word process, then *Ditto* runs tolerably quickly and will run most of the software you're likely to need. If you thought about running graphic-based PC packages, it's too slow to be useful.

**Simon Williams**

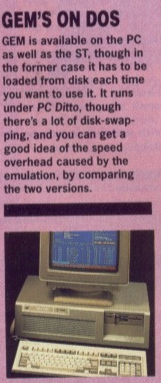
| PC DITTO | |
|---|---|
| features | 4.0 |
| performance | 2.5 |
| ease of use | 3.0 |
| manuals | 3.0 |
| format value | 3.0 |

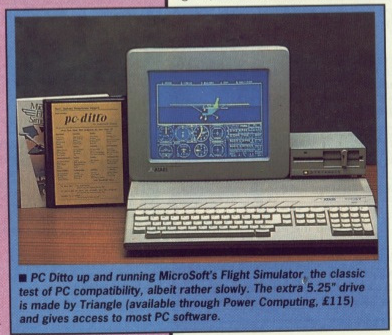
## PC DISK FORMATS

**Transferring software between ST and PC is very easy, as long as you have access to one of the newer PCs with a 3.5" drive. As long as you format a disk on a PC, then both ST and PC can read and write to it with their normal file copying commands. The PC can't read disks formatted by the ST though.**

## GEM'S ON DOS

**GEM is available on the PC as well as the ST, though in the former case it has to be loaded from disk each time you want to use it. It runs under *PC Ditto*, though there's a lot of disk-swapping, and you can get a good idea of the speed overhead caused by the emulation, by comparing the two versions.**






■ *PC Ditto up and running MicroSoft's Flight Simulator, the classic test of PC compatibility, albeit rather slowly. The extra 5.25" drive is made by Triangle (available through Power Computing, £115) and gives access to most PC software.*

## A2088 XT BRIDGE BOARD

**£607.20 ■ A2000 only ■ via Commodore Business Centres (ring 0628 770088 for your local)**

The Bridge Board is Commodore's attempt to make the Amiga a truly multi-purpose machine by running PC software too. It is effectively a complete PC on a card that plugs into your A2000.

For your money you get: a 8088 PC processor board with 512K of RAM; a 5.25" disk drive which fits snugly inside the A2000; and (hooray!) complete system disks for booting MS-DOS v3.20, with 600 pages of comprehensive manuals. Installation involves taking your A2000 apart, and is not a simple process – get a dealer to do it.

To 'run' the Bridge Board, you start the Amiga normally and click an icon in the PC drawer. At this point you have to put the 5.25" MS-DOS boot disk in. All mono output appears in a standard AmigaDOS window on the screen, which can be resized and closed like any other. The Bridge Board runs in mono by default, but you can also work in 16 colour mode, so it should be EGA compatible.

Because the Bridge Board is a PC in its own right, the clever thing is

# TTING CAN DO

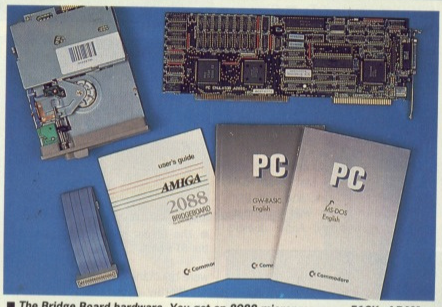
that the Amiga can go on running its own tasks unhindered. In action, everything goes very smoothly. Every piece of software we tried ran, including autobooting games (the Bridge Board can be rebooted with [Ctrl][Alt][Delete] without affecting the Amiga). The Norton tests clocked the performance at 1.0, exactly the same speed as a PC/XT.

However, there are two flies in the ointment. The Norton test only measures processing speed - because the display is being shared between Amiga and the Bridge Board, performance can slow down during graphics work on either machine.. Text scrolling particularly is slow in colour mode.

If you want to expand memory to 640K, use a mouse or serial interface, you've got to buy standard PC expansion cards (which slot into the A2000). You can't use the Amiga's own mouse, memory, or disk drives..

So does the Bridge Board do its job? It's certainly the best Amiga PC emulator there is, but at a price. You could easily buy a complete standalone PC for that much. And because the 8088-based PC/XT is an ancient standard, a performance of 1.0 on the Norton tests is still way below today's PCs. However, it's a neat and reliable one-box solution for anybody who needs a PC *and* and Amiga.

**Ben Taylor**




■ *The Bridge Board hardware. You get an 8088 microprocessor, 512K of RAM, MS-DOS disks and 5.25" disk drive. The board slots into an A2000 and shares its keyboard, screen and parallel printer port (but not the serial port or mouse). With some effort, hard disks can be shared too. Although you can transfer files between the PC and Amiga, this needs a special program – they can't access one another's disks directly.*

■ *The Bridge Board in mono and colour modes. Mono output appears as a standard window on the normal screen; in colour mode, you get a whole new display screen. We've pulled it down a bit to prove that the Workbench screen is still active beneath it.*

## TRANSFORMER GONE

As part of the Amiga 500 promotion last summer, Commodore were giving away a software PC emulator called *Transformer*. This is no longer being sold in this country, although some dealers may still have copies. Be warned: it can only run purely text based PC programs. There's no graphics emulation at all.

As with *Ditto*, no MS-DOS boot disk is provided, so you'll have to copy one. On the Norton tests, it clocks at 0.2 – modern PCs go ten times as fast. On an A500 you haven't got enough memory to run serious size programs anyway.

## AT BRIDGE BOARD

The PC/XT that the A2088 Bridge Board emulates is old hat these days. Modern PCs – called PC/AT compatibles – use at least the faster 8086 chip and run twice as fast (2 or more on the Norton scale). Commodore are working on an AT-type Bridge Board based on the even better 80286 chip, the A2286, but it looks to be a couple of months away yet The spec is an AT Bridge Board, 1.2MB 5.25" floppy drive, 640K RAM - all at £999+VAT.

| BRIDGE BOARD | |
|---|---|
| features | 4.0 |
| performance | 3.0 |
| ease of use | 4.0 |
| manuals | 4.0 |
| format value | 3.5 |

## MS-DOS - KILLS ALL KNOWN BUGS?

MS-DOS is the operating system of the IBM PC and all its clones. It is a command-based system where, for instance, to copy a file you type `COPY FRED.DOC ETHEL.DOC`[Return] rather than dragging nice friendly icons from disk to disk with a mouse. Like the ST's GEM, MS-DOS allows eight character filenames with three character extensions.

The default screen mode is just text characters, unlike the graphics screens of the ST and Amiga. This means you're limited in the characters you can use, but that screen updating is comparatively fast.

MS-DOS limits the maximum amount of memory it can address to 640K, and most recent PC programs use all of that. Many software companies now fiddle their way around the limit to run even larger applications.

## BRIDGE OF SIGHS

**Readers of old will have read of our ongoing saga to get hold of an Amiga XT Bridge Board to review (see last month's roundup of '88 for the gory details!). Its presence here doesn't mean we succeeded... Commodore's marketing department insist they are still out of stock, but they 'expect a shipment in any day now'. Thanks, therefore, to our friendly Bath Amiga dealer STARCOL (0225 311276) for loan of the review kit.**

# APPLE MACINTOSH EMULATION

The Apple Macintosh is the Rolls-Royce of personal computers. It's got class, but you pay for that – prices start at around £1500 for a single disk drive mono screen system. If you've got a mono screen ST, you can get access to a whole world of DTP and design software – for a fraction of the price of a pukka Mac system.

**ALADIN 2.10**
**£200 ■ Mono STs ■ Signa, Trevenen House, Cricket Hill Lane, Yateley, Camberley, Surrey GU17 7BA (0252 875031)**

Back in 1986 a program called *Magic Sac* tried to emulate a Mac on an ST – it proved more trouble than it was worth, since you needed to buy 'under the counter' Macintosh ROM chips to make it work, and even then much Mac software was incompatible. Not surprisingly, Apple dealers were reluctant to assist ST owners.

Worthy competition came in 1987 with a German hardware Mac emulator which smoothly ran over 95% of all Mac software on the ST. The program was *Aladin*. The current version – 2.1 – includes a set of Mac ROMs, which accounts for the rather high price tag. These ROMs are the old 64K ROMs, not the Mac SE compatible 256K versions.

Once you've slotted the *Aladin* box onto the cartridge port, you get to the screen which requests the Mac system boot disk. Here you come across the biggest problem of Mac emulation. Macs have a very perverse disk format, and the ST cannot directly read their disks. Therefore you've got to find yourself a Mac and transfer all the files you need via a serial link and special transfer program onto *Aladin's* special hybrid format disks. It takes about 4 minutes per disk.

Once done, the performance is superb. In fact, the ST's performance is in many ways superior to a real Mac since you have the benefit of running Mac software on the ST's crisp 640x400 pixel screen as opposed to the Mac's tiny 512x342 version.

*Aladin* also runs Mac software up to 20% faster than a Mac. This is in part because the Macintosh's 68000 CPU operates at 3.7 MHz, whereas the ST's runs at 8 MHz. Another speed improvement is that *Aladin* uses a special RAM disk called the SuperDisk which allows the vital Macintosh system file, which is accessed continually during most operations on a Mac, to be stored in RAM instead of on disk.

Pressing [Control]-[Alternate]F5 allows you to exit Macintosh mode and go to Atari's own GEM and back. ST text and picture files can be transferred to the Mac environment (although you can't transfer Mac-type files to the ST environment).

Other features include support for the ST's clock on Megas, both serial and parallel ports, and a generous supply of 'Patch files'. These are needed because several popular Mac programs don't follow Apple's guidelines for legal programming, and the rogues need to be modified in order to run properly.

Though £200 is a bit steep, almost the price of the bottom of the line ST alone, it still is an amazing way off the price of a new Macintosh. *Aladin* makes the ST a truly all-round computer. The only problem is not being able to read and write Mac format disks.

**Elliott Stein**

## ABOUT THE MAC

**In 1984, the Macintosh was the first computer to introduce the user friendly 'WIMP' interface of pull down menus, icons, and mouse controlled operation. The ST and the Mac use the same microprocessor, the 68000, so the task of software emulation is eased.**

**One of the best features of the Macintosh is its proportionally spaced screen fonts which are supported by the operating system. It makes it the best personal computer for desk top publishing. The ST's clumsy GDOS font system cannot compete with the beautiful copy produced by a Macintosh print-out.**

**One of the biggest differences between Macintosh and the ST lies in the fact that Macintosh is a heavily disk based computer. Because of the small 128K memory on the original Macs, instead of loading entire programs and desk accessories into memory the disk is accessed for information continuously throughout a computing session.**

**The Mac has much innovative and expensive quality software. Its desk top publishing programs are yet to be surpassed. In fact, it is the well designed Macintosh software which makes a Mac emulator a worthy investment.**

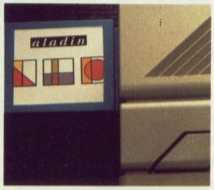
## HOW DO YOU DO IT?

**What do emulators actually do then? Hardware emulators like the Amiga's A2088 Bridge Board and the ST's *Aladin* work by effectively bolting on the chip set of the machine to be emulated, and handing over control to it.**

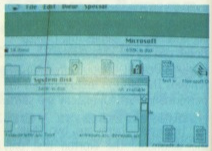
**Software emulators have a tougher task. There are two problems with running software designed for one machine on another. First, the two computers may have different microprocessors. The BBC uses an 8-bit 6502, whereas the Amiga uses a 16-bit 68000. The emulator is a program which reads an instruction from the 'foreign' program, works out what is the equivalent instruction on the 'host' machine, runs that instruction, reads the next, and so on. A slow process.**

**The second problem is that the two computers' hardware differs. An instruction to POKE a value to location 12345 might print a character on the BBC's screen, but that area of memory certainly won't control the screen on an Amiga. Programs which do this kind of very low level machine access usually can't be emulated.**

**So how is it that some emulators can actually run faster than the original machine? Let's take the BBC and Amiga again: the Amiga's 68000 microprocessor and blitter chip are more powerful than the 6502, and some things that take an age to do on the Beeb (like filling an area of the screen with a colour) can be done with a single instruction on the Amiga.**




■ ***The Aladin cartridge plugged into the ST's port.***



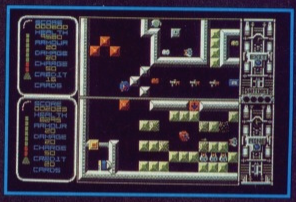
■ ***The distinctive Mac desktop as viewed on the ST screen under Aladin. The screen area is bigger , and the Apple Desk Accesory icon is different – otherwise you'd never know.***

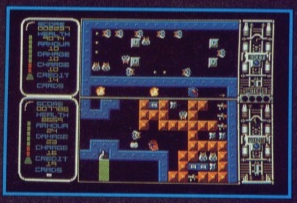
**ALADIN 2.10**

| | |
|---|---|
| **features** | **4.0** |
| **performance** | **4.0** |
| **ease of use** | **4.0** |
| **manuals** | **3.0** |
| **format value** | **4.0** |

# CAPTAIN FIZZ

## MEETS THE BLASTER-TRONS





**CAPTAIN FIZZ Meets The Blaster-Trons**
**The message is simple: co-operate or die!**

It's double fun and double trouble all the way in Captain Fizz, the most exciting simultaneous two-player game you and a friend are ever likely to play. It's a whole new world of split-screen, high-speed action, as **both** of you take on the nasty Blaster-Trons infesting the planet Icarus.

Yup, it's a tough mission alright, but you might just be able to do it if between you you've got the right blend of co-operation, courage, laser-hot reflexes, tactical sense... and brains. The action is fast and furious in Captain Fizz, but if you can't work out the right tactics you'll both be dead meat.

There are 22 levels of savage and relentless action to battle through before you reach your objective, the central computer that's causing the evil infestation. You'll never get there, though, unless you put your heads together and co-operate; your buddy can't do it on his own, and neither can you. This is one program where even the easy games are hard. So remember — united you stand, but divided you fall...

**Warning: this game is *Impossible* to beat on your own.**

Two joysticks required for two-player game
Screen Shots are from the Atari ST. Version

**ATARI ST./AMIGA — £14.95**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## MACAMIGA TOO?

**Amiga owners may soon be able to reap the benfits of Macintosh software too. Rumour has it that David Small – who wrote the original *Magic Sac* Mac emulator for the ST – is working on an enhanced version for the Amiga.**

## UPGRADE NEWS

**Yet another update to *Aladin* has just been announced, and Signa promises version 3.0 by early 1989. New features include hard disk support, use of Mega ST's blitter chip, full Macintosh sound compatibility, a new chip in the cartridge to speed up operation and the new ROMS with the ability to use Mac System 4.1. Aladin 2.0 users may update to the new version for £25.**

# BBC EMULATION

You'll already find Amigas being used extensively within school art departments all around the country. Most notably within the last year, the Somerset education authority had at least one Amiga installed in every secondary school. The problem is that although the Amiga is seen as the choice for art and design departments, the Amiga has still to break into the BBC dominated classroom. In an attempt to break Acorn's monopoly, Commodore have released the Amiga BBC emulator.

**BBC EMULATOR**
**£49.99 (£10 off to schools) ■ All Amigas ■ James Associates, Hazlitt Mews, London W14 0JZ (01-602 0806)**

The BBC Emulator, or Beebulator as Commodore would prefer, aims to be an almost complete emulation of the operating system of a model B BBC micro. Nearly everything is there, the old BBC BASIC that many a computer user was weaned on, the BBC disk filing system (called 'Disk Furtling System' by Commodore to avoid copyright problems with Acorn) and all the different screen modes and resolutions of a standard beeb.

Any program written in standard BBC BASIC should run perfectly on the Beebulator. Being aimed specifically for use in the education market, the Beebulator will not run machine coded games such as *Elite* and Superior Software's Repton series. The vast majority of educational software is written primarily in BASIC with the odd machine code routine to give that bit of extra turbo charging. All software written in a 'legal' manner, should work without problems.

The emulator uses a 'layered' software approach. At the lowest level is the ordinary Amiga operating system, on top of which is a 6502 microprocessor emulator (the BBC uses a 6502 chip, not a 68000 like the Amiga). The BBC BASIC emulator is then loaded on top of this.

The version of BASIC included in the package is a complete implementation of the BBC's infamous BASIC. The only omission is the lack of support for sound generation ENVELOPE commands. 99% of the *FX and *VDU commands that make the operating system calls are catered for.

The first thing that strikes you about the BASIC is its blinding speed, who ever said emulators are slow? Programs written in BASIC run up to eight times faster under the BBC emulator than they would on a BBC. This considerable achievement is made possible by allowing the Amiga's operating system and dedicated hardware to handle all the hard work. When you write a program to draw boxes in BBC BASIC, the emulator passes control to the more capable hands of the Amiga's graphics hardware.

If you wish to use it to run BBC software and have no intention of eventually moving over to the Amiga completely, you're best advised to stick to your BBC. Only one machine can run all BBC software, and that's a BBC. What the emulator does provide is a way of easing the pain of upgrading from the Beeb to the Amiga.

**Jason Holborn**

```
BBCEmulator

Ariadne DFS

BASIC

>*CONNECT
Enter on slave micro:
 *FX 2,1
Then press any key on Amiga.
Connecting...Ok
>
>*IMPORT 0 0
Initialising drive 0
Importing disk  MINI OFFICE
Importing files :0.*.*
$.CONVERT    L   FF1900 FF8023 001400
$.MINIG      L   FF4E00 FF4E00 002E00
$.MINIS      L   FF5980 FF5980 002200
```

■ *The Amiga's screen as the Beebulator drags a diskful of goodies from the BBC to the Amiga.*

```
>LIST
   10 MODE 7:PRINT
   20 PRINT CHR$(157);CHR$(141);CHR$
);"DOUBLE HEIGHT CHARS!!!!"
   30 PRINT CHR$(157);CHR$(141);CHR$
);"DOUBLE HEIGHT CHARS!!!!"
   40 PRINT
   50 PRINT CHR$(129);CHR$(157);CHR$
);"TELETEXT SUPPORT"
   60 PRINT CHR$(134);CHR$(157);"TEL
T SUPPORT"
>*.
MINI OFFICE (01)
Drive 0                 Option 2 (RUN)
Dir. :0.$               Lib. :0.$
>_
```

■ *A BBC BASIC program making beautiful colours on the Amiga screen with the Beebulator*

## NEWS FROM THE BBC

**At the moment, there's no way of reading BBC disk from the Amiga – although Commodore are working on it. So the first thing you will need is a lead to connect the Amiga and BBC via the serial interface. Things are not that simple, however, as the BBC uses awkward RS423 sockets whereas the AMiga uses the standard RS323. Most BBC retailers (if you can find them!) should be able to provide you with the appropriate lead. It would have made sense if Commodore themselves had included the RS423 to 232 in the package.**

**Once you've connected the Amiga and BBC, just typing `*CONNECT` on the Amiga and `*FX 2,1` on the BBC will get the two machines talking. To transfer the contents of an entire BBC disk to an Amiga disk, the *IMPORT command is used. For example, if you typed `*IMPORT 0 0`, this would transfer to contents of a disk in drive 0 on the BBC to drive zero on the Amiga. Then you can get running the programs.**

## PD EMULATORS

**Although our three main reviews are all commercial products, emulators seem to hold a fatal fascination for the public domain programming fraternity.**

**One of the best known PD emulators is on the ST. Many STs come with a set of PD disks including a CP/M emulator. CP/M was a command line operating system widely used in the '70s, and still around on Amstrad CPCs and PCWs. Your main problem is getting CP/M software onto the ST – no current CP/M machines can write 3.5" disks, so you're reduced to serial links and comms programs again. Speed isn't too bad, since the 68000 runs several times faster than the CP/M-standard Z80 microprocessor.**

**On the lighter side, there's an ST 'emulator' on the Amiga which just displays a standard ST desktop screen then crashes whenever you click the mouse; there's supposed to be an Amiga emulator on the ST, but we've never seen it and our suspicions are aroused by the fact that it claims to require a blitter to be in your ST, but was written in 1986 about 18 months before you could get blitters.**

**A variety of other emulators abound, for Atari XLs, C64s and more, but these are only of passing interest since it's virtually impossible to transfer cassette games from a C64, say, and an ST or Amiga's disk drives.**

## TO RUN OR NOT TO RUN...

**The Beebulator was tested using the most popular BBC educational programs used in schools. As we've said in the main text, 'clever' machine code programs and games like *Elite* will not run on the emulator. Below is a list of some of the programs which will work fine:**

**SchoolSoft's range of software**
***SnakeWorks***
**The Longman series of programs such as *Tray*, Cars' *Maths in Motion MicroDiet, Explorer, Other Worlds: The Visitor***

**BBC EMULATOR**

| | |
|---|---|
| features | 3.5 |
| performance | 4.5 |
| ease of use | 4.5 |
| manuals | 3.5 |
| format value | 4.0 |

# MICROMART

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| 520 STFM/1Mg. inc MOUSE | £249.95 |
| 520 STFM/1Mg DRIVE WITH £450 WORTH OF SOFTWARE AND JOYSTICK | £394.50 |
| AMIGA A500 + DISCS + MODULATOR | £399.95 |
| SINCLAIR +2 inc games & Joystick | £139.95 |
| PC1512/PC1640 | BEST PRICES |
| *PCW9512 | £559.00 |
| *PCW8256 | £439.00 |

* Both above include starter pack of discs & fanfold paper

| | |
|---|---|
| AMSTRAD 464 inc colour including modulator, clock radio & desk | £399.95 |
| AMSTRAD 6128 + 17 games + joystick + mono monitor | £299.95 |
| COLOUR MONITOR VERSION | £399.95 |
| AMSTRAD 6128, colour + modulator, clock radio & desk | £499.00 |

## MONITORS & LEADS

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| COMMODORE 1901C COLOUR | £199.95 |
| STOCART LEAD | £11.95 |
| STAMSTRAD COLOUR MONITOR LEAD | £9.95 |
| SPEC 128/SCART (State Monitor) | £9.95 |
| COMPUTER/TV LEAD | £1.99 |
| MP1-AMSTRAD 464 MODULATOR | £14.95 |
| MP2-AMS-6128 | £29.95 |
| UNBADGED 8833 monitor | £229.00 |

## PRINTERS

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|---|---|
| PANASONIC KX-P1081 | £179.95 |
| STAR LC-10 COLOUR | £259.95 |
| STAR LC-10 MONO | £219.95 |
| CITIZEN 120D inc Interface | £149.95 |
| DMP 2160 AMSTRAD +3 or CPC LEAD | £159.95 |
| MP 135 DOT MATRIX | £145.00 |

## REPAIRS AND SPARES

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|---|---|
| SPECTRUM ZX/SP+ | £19.95 |
| +2 | £24.95 |
| CBM 64 | £35.00 |
| ZX-MEMBRANES | £3.99 |
| QL-MEMBRANE | £5.95 |
| SPEC+/128 MEMBRANE | £8.95 |
| SPEC KEYBOARD TEMPLATE | £3.99 |
| CBM 64 PSU | £24.95 |
| SPECTRUM 48 PSU | £9.95 |
| 128K PSU | £14.95 |

## BACK-UP DEVICES

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| FREEZE MACHINE C64/128 | £24.95 |
| ATARI ST-FREEZE FRAME | £47.50 |
| MULTIFACE 1 (SPEC) | £39.95 |
| 128 | £44.95 |
| MULTIFACE 3 | £44.95 |
| MULTIFACE 2 (AMS)+ | £44.95 |
| MULTIFACE (DISCIPLE) 128 | £44.95 |

## QUALITY COVERS

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| PC1512 MONITOR/SYSTEM COVER | £12.95 |
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| SPEC+ | £4.99 |
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| KONIX NAVIGATOR | £14.99 |
| DATEX ALIEN BLASTER | £5.99 |
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| AMX MOUSE (SPEC) inc ART | £64.50 |
| KEMPSTON MOUSE inc ART STUDIO | £54.50 |
| TROJAN LIGHTPEN (specify make) | £19.95 |
| TROJAN POW LPEN | £29.95 |
| TROJAN IBM LPEN | £19.95 |

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|---|---|
| RAM MUSIC MACHINE SPEC or AMS* (*Inc std (?) | £47.50 |
| DK STEREO SPEECH AMS464/6128 (Tape) | £27.95 |
| DK-STEREO SPEECH AMS464/6128 ROM | £37.50 |
| DK-3 CHANNEL SOUND (spec) | £29.95 |

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|---|---|
| 10 SONY 3½" DSDD | £14.95 |
| 10 NASHUA 5¼" SSDD | £8.95 |
| 25 BULK DS 5¼" | £9.99 |
| 10 ATHANA 5¼" DSDD | £6.95 |
| 10 AMSOFT 3" CF2 | £21.95 |
| 10 3M 5¼" DSDD | £9.95 |
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| LOCKABLE BOX HOLDS 20 3" | £7.50 |
| LOCKABLE BOX HOLDS 40 3½" | £7.50 |
| LOCKABLE BOX HOLDS 100 5¼" | £8.95 |

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| ATARI ST 2nd DRIVE | £89.95 |
| ST 5¼/3½" DUAL DRIVE | £199.95 |
| CBM 64 1541C | £169.00 |
| CBM 64 1581-3½" | £199.00 |
| CUMANA ST 3½" DRIVE | £99.95 |
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## SCOOP PURCHASE!

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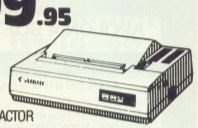

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| Helter Skelter | 9.95 | 9.95 |
| Purple Saturn Day | 16.25 | - |
| Wanted | 12.95 | 12.95 |
| Joan Of Arc | 14.95 | - |
| Heroes Of Lance | 17.50 | 17.50 |
| Dream Zone | 16.25 | 16.25 |
| TV Sports Football | - | 18.95 |
| Soldier Of Light | - | 16.25 |
| Dun. Master (Amiga) | - | *(reg/meg) |
| Bismark | 16.25 | - |
| M Mouse (Amiga) | - | 14.95 |
| Adv. Rug Sim | 12.95 | - |
| Man Hunter N.York | 18.95 | - |
| Tsuit Manager | 12.95 | 12.95 |

## COMPILATIONS

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|---|---|---|
| Computer Hits | 18.95 | 18.95 |
| Hit Disks Vol 1 | 16.25 | 16.25 |
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| Super Six | - | 16.25 |
| Triad | 18.95 | 18.95 |

## GAMES

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|---|---|---|
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| Corruption | 16.25 | 16.25 |

## GAMES

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|---|---|---|
| Cybernoid | 14.95 | 14.95 |
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| Return Of Jedi | 12.95 | 12.95 |

## GAMES

| | ST | Amiga |
|---|---|---|
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# APOLONIA SOFTWARE -THE COMPANY THAT CARES

# GOLD DUST

**Steve Gold hunts out the latest state-side news and views. Commodore's European MD leaves, US on-line charges rise and Atari cuts its losses.**

The New Year lethargy among US on-line computer users has been disrupted by Telenet, the packet switching company, which has revised its tariffs for *PC Pursuit*.

*PC Pursuit* is a system whereby modem users in one part of the US can access BBs in other areas for the price of a local telephone call, plus $30 a month. This saves many long distance phone calls.

The bad news is that Telenet is now 'capping' *PC Pursuit* user's accounts to 30 hours of usage a month before surcharges apply. Many subscribers have threatened to resign the service.

This will result in a stagnation in the public domain/shareware software scene here in Europe, as the software channels will 'dry up.' Telenet is currently considering the many thousands of complaints from subscribers.

**BUY BUY AMERICA**

**As with most US programs, you will almost certainly find it cheaper to source programs direct from the manufacturer.**

**And with credit cards being so popular these days, there really is no reason not to buy your programs direct from the US. US software houses are geared up to deal with international users – remember that Canadian ST users have the same problems as UK ones when dealing by mail order.**

### Prodigious talents

On the utility program side, Marathon Computer Press has released the *VDOS Prodigy System* at $69.95 for the Atari ST. The program is an innovative software librarian, DOS manager and operating system utility package for the ST.

Describing the package's capabilities in a nutshell is tricky. It has been likened to the *Norton Utilities*, *Norton Commander* and *Power Menu* packages for the PC, all rolled into one. The package supports up to 100 auto-executable programs, has a Unix-like interface language, and occupies just 42K of system RAM.

Shareware ST users may be familiar with *VDOS*, the forerunner to *VDOS Prodigy*. *VDOS Prodigy* is, in fact, a commercially-developed and expanded version of *VDOS*.

Further details of *VDOS Prodigy* from: Marathon Computer Press, Post Office Box 68503, Virginia Beach, Virginia 23455-9433, United States. Tel: 0101-804-460-5227 (24 hours)

### Send in the Feds

Finally for the ST this month, my sources say Atari may not have the shackles of the Federated Group, the troubled retail store chain Atari purchased back in 1987. Atari has taken the original owners to court alleging misrepresentation as to profitability, and looks like winning.

Whatever happens, the inside word is that Atari wants out, in order to concentrate on new products for the ST series, instead of pouring money into the retail outlets as the Federated Group continues to make a loss.

### Goings-on in AmigaLand

Commodore seems to be undergoing a number of management changes at the moment. Harold Speyer, the European senior general manager who has been with the company since its earliest days, left the company at the end of January.

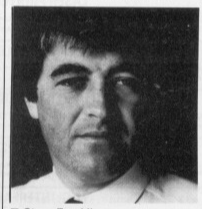
I had a word with Christian Anderson, Speyer's successor in Commodore's Frankfurt power base. He told me that Commodore UK will still continue to formally report to Commodore Europe in terms of its management. However, he revealed that the existing UK management, under the guidance of Steve Franklin, will forge a closer relationship with Irving Gould, Commodore's president in the US.

This is good news for Amiga owners in the UK, since it means that the chain of command when Commodore UK talking to the US has been shortened. This should result in the faster shipment of new Amigas from the US to the UK when they're released.

Talking of Irving Gould, it seems that his US headquarters has received indications that the A500 is beginning to catch up on the Atari 520 ST here in the UK. This seems to be due to the A500's price point compared to the 520ST. Watch out for an increasing number of Europe-first new products for the Amiga.

On the software front, apart from the usual diet of games, games and more games, there's little to report from the US scene. One package which have caught my eye, however, is *Expresscopy*, a $44.95 hard disk backup and file copying utility for all Amigas.

*Expresscopy* is interesting, since it can perform hard disk backups and copy files from hard disks to floppy disks at the rate of 1Mb a minute. Unlike many other hard disk backup utilities, *Expresscopy* retains the same directory structure and file attributes as the original files.



■ *Steve Franklin.*

The final version, which will ship from the end of February, 1989, onwards, can be accessed from the command line interface, as well as via Workbench. Further information from: Express Way Software, PO Box 10290, Columbia, MO 65202-4005, United States. Tel: 0101-314-474-2984.■

### Modem living

**ST users who have moved into the world of modem living with their machines may be interested to hear of new $59.95 communications package called *MasterLink* that is creating a lot of interest on the US modem scene.**

***Masterlink* can be paged in and out of the background. This is especially useful if, for example, you start a transfer and want to do something else on your ST. Other features include the ability to run programs remotely by modem. You can hook your home ST to the office PC – not bad if you want to play the ST version of *Marble Madness* at work!**

***Masterlink* will be available in the US from March. Further details of the package from: Intercept Software, 2828 Clark Road Suite 10, Sarasota Suite 10, Sarasota, Florida 34231, United States. Tel: 0101-813-923-8774.**

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## SOFTWARE

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| Write & File (1 Mb) | £55 | | |

**Protext v4.0 from Arnor . . . Now available . . . £59.00**

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| Superbase Personal | £69 | | |
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| Superbase Personal | £42 | | |

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| MCC Pascal V2.0 | £62 | | |
| Macro Assembler | £49 | | |
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| MCC Toolkit | £28 | | |
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### UTILITIES

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|---|---|---|---|
| Amiga DOS Express | £26 | Gizmoz 2.0 | £41 |
| Award Maker | £31 | Goldspell 2 | £24 |
| Butcher 2 | £24 | GOMF V2.1 | £24 |
| Climate | £29 | Grabbit | £24 |
| Diskmaster | £39 | Interchange | £39 |
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| DOS 2 DOS | £31 | K Gadget | £23 |
| FACCII | £24 | K Roget | RING |
| Flipside | £24 | Lion Fonts | £31 |
| Maxidesk | £53 | | |
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### ART/GRAPHICS/ANIMATION

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|---|---|---|---|
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| Aegis Impact | £50 | Deluxe Productions | £107 |
| Lights,Camera,Action! | £45 | Deluxe Video 1.2 | £49 |
| Aegis Videoscape 3D | £113 | Digi Paint | £47 |
| Aegis Video Titler | £87 | Express Paint V2.0 | £55 |
| Animate 3D | £99 | Fantavision | £32 |
| Animator Apprentice | £158 | Forms in Flight | £55 |
| Animator Appr Jnr | £47 | Modeler 3D | RING |
| Anim Appr Jnr Libs | £13 | Page Flipper + F/X | £91 |
| Deluxe Art Parts | £8 | Photon Paint | £49 |
| Deluxe Paint II | £49 | Photon Paint Exp Disc | £19 |
| Deluxe Photolab | £49 | Photon Video | £79 |
| Pixmate | £39 | | |
| Printmaster Plus | £38 | | |
| P.master Clip Art | RING | | |
| Prism Plus V1.2 | £47 | | |
| Pro Video | £126 | | |
| Pro Video Font Libs | £55 | | |
| Sculpt 3D | £67 | | |
| Sculpt 3D Animate | £99 | | |
| TV Text | £55 | | |
| TV Show | £55 | | |
| The Director | £47 | | |
| Turbo Silver | £110 | | |

### COMPUTER AIDED DESIGN

| | | | |
|---|---|---|---|
| Aegis Draw 2000 | RING | IntroCAD | £47 |
| Dynamic CAD V2.3 | £374 | Pro Board | £374 |
| Pro net | £374 | | |
| X CAD | £363 | | |

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| | | | |
|---|---|---|---|
| A Drum | £28 | Deluxe Hot & Cool Jazz | £8 |
| Aegis Audiomaster | £36 | Deluxe Rock & Roll | £8 |
| Aegis Sonix V2.0 | £45 | Instant Music | £19 |
| Deluxe Music | £49 | Music X | RING |
| Pro Midi Studio s/w | RING | | |
| Pro Sound Designer s/w | £28 | | |
| The Music Studio | £26 | | |
| Ultimate Sound Tracker | £28 | | |

### COMMUNICATIONS

| | | | |
|---|---|---|---|
| A Term | £36 | K Comm 2 | RING |
| BBS PD | £95 | Maxicomm | £38 |
| On Line | £38 | | |
| Ruby View/Term | £79 | | |

### EDUCATIONAL

| | | | |
|---|---|---|---|
| Descartes! | £24 | Aesops Fables | £20 |
| Galileo | £45 | Chicken Little | £20 |
| Mathamation | £41 | Little Red Hen | £20 |
| The Ugly Duckling | £20 | | |
| Three Little Pigs | £20 | | |
| Intelli-type | £20 | | |

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ACCESS

# DISK EXTRA

**ST Amiga Format's unique dual format disk gives you the best of both ST and Amiga worlds! JASON HOLBORN digs deep to bring you the very best in PD and reader-ware from the four corners of the globe.**

DISK

## ST

New to the ST? See page 42 for full loading details

### 38 JITTERBUG

Tired of the lonely world of single player games? Enter a new dimension of sociable gameplaying with *JitterBug* and challenge up to 32 fellow ST owners!

### 39 DISKMECH

In the immortal words of Jack Tramiel, *DiskMech* really delivers 'Power without the Price'. Within this little program you'll find a whole host of powerful utilities that are all you need to keep your disks in tip-top condition.

### 39 HANGMAN

What program is a powerful education tool as well as being a great game in its own right? *Hangman* of course! Build your own list of words on a subject of your choice. Music buffs will particularly like the included tunette.

### 40 CPANEL

Do you feel restricted by the standard ST Control Panel accessory which can be pretty boring even at the best of times? *CPanel* gives the kind of complete control over your ST that would have made even Stalin green with envy!

### 41 LINEUP4

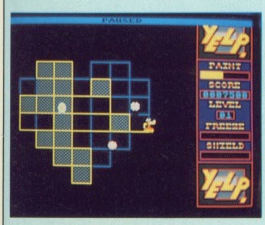
Do you remember that classic game *Connect 4*? No!? Where have you been? Whether you're a seasoned grandmaster or have never played the game before in your life, *LineUp4* will provide you with hours of fun.

## AMIGA

New to the Amiga? See page 42 for full loading details

### 38 YELP!

Fans of the old Dragon 32 will remember *Cuthbert Goes Painting* with affection. This vastly enhanced Amiga version features the same addictive gameplay that made the original such a hit but graphics and sound that are unmistakably 16 Bit!.



### 40 NEWZAP

*NewZap* is undoubtedly one of the shareware greats; ask anyone interested in PD and they are sure to agree. It's a full-featured file editor that puts at your disposal a whole host of powerful editing facilities.

### 39 UTILIMASTER

Are the intricacies of the Amiga's command line interface giving you nightmares? Do you feel baffled by the buffers and confused by the commands? With *UtiliMaster*, you can have the power of the CLI at your finger tips without ever having to type a single command.

### 41 DMOUSE

Give your mouse pointer the kind of turbo charging that would put a Testarossa to shame.

### 41 EXPLODING WINDOWS

Are your Workbench windows boring you to death? They pop open, they snap close, and that's it... how boring! Make your Amiga Workbench windows collapse and expand with this fun little program.

### 40 WBKALEID

If exploding windows weren't enough, load *WBKaleid* and your Workbench screen will be more entertaining than a episode of Neighbours!

DISK

## SHAREWARE

**Many programs published on our cover disk are quoted as being ShareWare by their authors. Shareware is Public Domain with a difference - you can freely copy and distribute shareware software but if, after evaluating it fully you feel it is useful then you are asked to send a donation to the author. He will often send you back a more up-to-date version with printed documentation. If a program is Shareware, please read the included documentation file carefully.**

## DISK DOCUMENTATION

**Many of the programs on *ST Amiga Format* disks are Public Domain. In such cases we've simply passed on their standard documentation files unchanged, as is required by the PD code of practice. Some of the phrasing is 'idiosyncratic', shall we say, so please don't blame us for misspellings!**

**AMIGA**

# YELP

**PROGRAM:**
**By S. Winstanley**
**MACHINE: All Amigas**
**FILES: YELP, YELP.DOC**

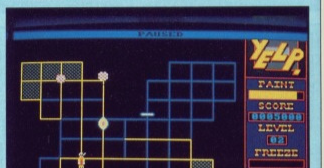
The land of paint brushes was a jolly place before *they* appeared. Every object, from sky scrapers to pebbles, was regularly painted in nice bright colours. However, just recently strange alien space craft have been landing and taking up residence all around the country. The people of Paint Brush Land are usually fairly hospitable but when the visitors refused to be painted in nice bright colours, war was declared.

You control our hero, Berty the bold, Paint Brush extraordinaire. Berty is the latest highly trained painting machine, trained under utmost secrecy in a high security military base. Armed with a supply of rapid drying paint, Berty must paint the ships of the alien visitors before the land starts to look unfashionable. Its going to be a struggle however, as the alien visitors chase you around their ships stealing all your ammunition in a desperate attempt to stay dull and boring.

Each ship is made up of distinct blocks that must be completely surrounded by paint before they will accept their new colour. Once all the blocks are filled, the alien craft is deemed fashionable and the aliens die from shock at your garish choice in colour schemes.

### Getting going

You can load *Yelp* by either inserting your cover disk at the 'Insert Workbench' prompt, clicking on the YELP icon on the Workbench or by selecting YELP from our cover disk menu, Click_Me. If you choose to run *Yelp* from the Workbench, the cover disk must be inserted into either drive DF0: or drive DF1:. Full instructions are available in the file, YELP.DOC.

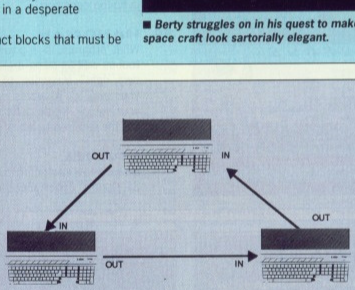



■ ***Berty struggles on in his quest to make drab alien space craft look sartorially elegant.***

**ST**

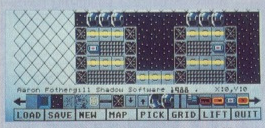
# JITTERBUG

**PROGRAM:**
**By A. Fothergill**
**MACHINE: Colour STs only**
**FILES: JITT_BUG.PRG, JITT_BUG.DOC, SHIPEDIT.PRG, SHIPEDIT.DOC**




■ ***JitterBug is one of the first games to take advantage of the ST's unique MIDI capabilities. Up to 32 players can play simultaneously by connecting their ST's together through MIDI. Each player must have their own ST for use as a terminal, all of which must be connected together by MIDI cables in a ring network arrangement. For example, with a two machine network, MIDI OUT from computer 1 would be connected to MIDI IN of computer 2 and MIDI iN on computer 1 must be connected to MIDI OUT of computer 2. The diagram above shows a three machine network.***

Far into the future, the very existence of the human race is under threat. A massive space freighter the size of our moon has been torn to pieces in a cosmic meteor storm and even as we speak, fragments have reached the earth's atmosphere and are all set to rain down on the inhabitants of Earth. On board the crippled craft are a multitude of alien life forms that unless rescued, will be roasted alive as the ship burns up in the atmosphere. It is your job to enter the stricken vessel and rescue the ship's inhabitants before it's too late. If this task seems too much for you, using *JitterBug's* unique multi-player option, you can employ the help of up to 31 other ST owners to aid you in this monumental task.

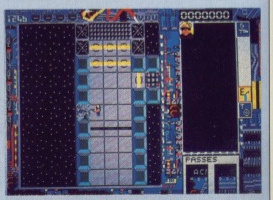



■ ***The Ship Edit program. Customise the SS JitterBug to your hearts content. The program can be used to modify the existing levels of create complete new ones. Once you've finished, just load up the JitterBug game and your customised ship will be brought into play.***

### Getting going

For full details of connecting together multiple STs, refer to the diagram and accompanying text. Even if you don't want to play multiplayer, or don't know anyone else with an ST, *JitterBug* still makes a great game when played with a single ST.

You can load *JitterBug* by clicking on the JITT_BUG.PRG on the desktop. After a short while, the game will load and you're away! Also included on our cover disk is a utility program to allow you to modify the spacecraft to your heart's content. Full instructions on both the game and screen designer are included within the JITTERBUG folder.




■ ***Rescuing stranded aliens is no push over. Many express their reluctance to leave by trying to kill you!***

AMIGA

# UTILIMASTER

**PROGRAM:**
**Public Domain**
**MACHINE: All Amigas**
**FILES: UTILIMASTER, UTILIMASTER.DOC**

Does the Amiga's Command Line Interface completely baffle you? Do you know the difference between your DIRs and your don'ts? If the answer is 'Yes' and 'No' respectively, then *UtiliMaster* will come as a godsend to you. No more 'Insert Workbench' requesters, no more 'Bad Args' and 'Unknown Command' messages, just plain sailing.

Designed to take the drudgery out of using the Amiga's CLI interface, how does *Utilimaster* do it? Easy, by completely replacing it, that's how matey! *UtiliMaster* allows you to carry out such wonderous operations such as:

- **Copy files:** Allows you to copy any files/directories from one disk to another at the click of a mouse button, whether they normally show up as icons on the Workbench or not. This'll help you copy your *Format* cover disks in future.
- **Display files:** Works much like the file reader we use for 'Read Me' files on our cover disk. Just select the file to be read and it will be displayed on screen.
- **Delete files:** Clean up your disk with the kind of ease of use and speed that only *UtiliMaster* can offer.
- **File Locking:** Works by changing the protection bits on a file so that it cannot be accidentally erased. You can also unlock files.

### Getting going

You can load *UtiliMaster* in two ways. Firstly, by double clicking on the UtiliMaster icon on the Workbench or secondly, by selecting UtiliMaster from our cover disk menu program, Click_Me. Some very extensive instructions are available within the UtiliMaster drawer. These are recommended reading if you wish to get the most from this excellent program.

■ ***The UtiliMaster screen. Using CLI commands has never been so easy!***

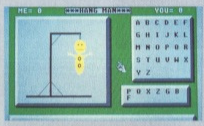
ST

# HANGMAN

**PROGRAM:**
**By S. Copland**
**MACHINE: Low Res. STs Only**
**FILES: HANGMAN.PRG, HANGMAN.DAT, HANGMAN.DOC**

*Hangman* is one of those games that have certainly been around for a long time, a lot longer thanboth the ST and Amiga that's for sure! You'll find it being played in both the home and in the classroom as it's a great learning tool and a challenging game.

The thing that most attracted us to the version included on this months cover disk is that is it both adaptable and, above all, fun to play. Using a standard text editor or word processor, you can build a list of words of your choice on any subject of your choice; from the anatomy of the armadillo to the effect of the Chinese social revolution on sales of 'stay-puft' marsh mallows. To build your own list of questions, all you have to do is to modify the file 'HANGMAN.DAT' in a standard text editor or word processor.



■ ***The chips are almost up for this poor fellow. Unless you get the next letter right, he's history.***

### Getting going

You can load *Hangman* by clicking on the HANGMAN.PRG icon on the Desktop. The datafile included on the cover disk will be of particular interest to all you music buffs. Full instructions are available within the Hangman folder.

ST

# DISKMECH

**PROGRAM:**
**Shareware (See Margin Note)**
**MACHINE: All STs**
**FILES: DISKMECH.PRG, DISKMECH.RSC, DISKMECH.DOC**

Does your ST disk drive have a tendency to chew up your valuable disk data? Have you lost hours of hard work slaving over your word processor just because the ST disk drive decided that is was going to do unmentionable things to your disk? If you're a victim of corrupt disks then *DiskMech* will be of great interest to you.

On a floppy disk, the filenames and location of all files on the disk are held in a fixed directory track. When you save a file to a disk, the filename and the place where the file was written onto the disk is automatically added to this list. When a disk becomes corrupt, the most common cause is very often that this directory track has been corrupted in some way. More often than not, some files can be rescued by merely patching up this corruption.

*DiskMech* is a powerful disk analyser/ archiver/editor that allows you to carry out all sorts of wonderful operations on your disk with relative ease. Features include:

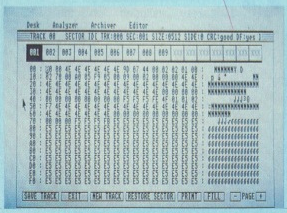
- **Sector Editor:** Edit individual bytes within any sector regardless of the size or track number. The Sector Editor is of particular use when patching up damaged data.
- **Format Editor:** Probably the most powerful facility. With it you can create any type of sector layout, customise ID fields and revel in other such techie disk drive jargon.
- **Disk Analyser:** Snoop into the darker recesses of your disks with the analyser. It allows you to analyse a disk's format, the information on individual tracks and even the data between sectors and ID fields.

### Getting going

You can load *DiskMech* by clicking on the DISKMECH.PRG icon. If you have more than one drive on your ST, disks must be in all drives or the program will not run. Further information on *DiskMech* is available within the DISKMECH folder.

## FORMAT WARNING!!!

***DiskMech* is most definitely a program for the techies among you. Directly editing the contents of a disk's sectors can seriously damage the data held on it if you don't take special care. As always, *Format* cannot be held responsible for any disasters that occur as a result of using *DiskMech*.**



■ ***The DiskMech sector editor. Here, sector zero on track zero is under scrutiny.***

AMIGA

# NEWZAP

**PROGRAM:**
**Shareware (See margin note)**
**MACHINE: All Amigas**
**FILES: NewZAP3.18, NewZAP.DOC**

Have you ever wanted to make a quick change to a program or data file without having to go through the long winded process of editing and then recompiling it from scratch? Or maybe it's a commercial program you want to alter and you just don't have the source code to go back to? Until now it was an impossible dream but with *NewZAP*, that dream becomes a reality.

Any of you who are interested in the Amiga public domain scene will instantly recognise the name *NewZAP*, based around the original *FileZAP* utility. It is a handy utility that allows you to quickly and simply make changes to any file on disk by directly 'zapping' (as the techies say) its bytes.

Say you wrote a program in C that printed your name on the screen but while writing it, you failed to notice that you had made a typing error in your own name. Once the program is compiled, usually the only thing you can do is edit the source code and then recompile; a time consuming task indeed. With *NewZAP*, all you have to do is load your program, locate the text in question, correct the mistake and then save your update. Simple eh!

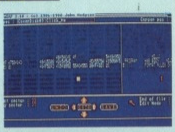
### Getting going

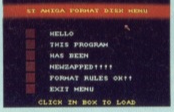
You can load *FileZAP* by selecting from our cover disk menu program, Click_Me, or alternatively, for the adventurous among you, you can click directly on the NewZAP3.18 icon on the Workbench. Full instructions are available within the NewZAP drawer.

**FORMAT WARNING!!!**
**Use *NewZAP* with care. It is not advisable to change bytes within a program unless you really know what you're doing. Any bytes incorrectly changed could cause the program to fail to work and your machine to crash.**

■ *Our Cover disk menu program before being NewZAP'ed.*

■ *Just search for the appropriate text, click on it and then enter the new text. Now save the changes and that's it!*






■ *After being NewZAP'ed..... and the credit can be all yours. Carry on like this and you'll have people thinking you wrote* Interceptor.

AMIGA

# WBKALEID

**PROGRAM:**
**Public Domain**
**MACHINE:**
**All Amigas**
**FILES: WBKaleid, WBKaleid.DOC**

It's fun time again on the cover disk. This month we present a rather strange program that produces and intriguing kaleidoscope effect on the Workbench while you carry on working.

We aren't going to tell you anything else about this program as that would ruin the surpise, so just load it up and sit back and enjoy. We think you'll be amused and above all, intrgued!

### Getting Going

You can load *WBKaleid* by double clicking on the WBKALEID icon on the Workbench. To turn off the Kaleidoscope effect, locate somewhere within the Workbench screen a small window title bar called 'WB Kaleidoscope' and click on its close gadget (the box at its top left). Full instructions are available as always within the same drawer as the program itself.

ST

# CPANEL

**PROGRAM:**
**Public Domain**
**MACHINE: All STs**
**FILES: CPANEL.ACC, CPANEL.DOC**

Do you often wish you had more control over your ST? While the Control Panel accessory included on the UK Language disk bundled with your ST is fine for changing screen colours and other simple tasks, that programs falls short of giving you complete control. Enter *CPanel*, the utility that all you Desktop users have been crying out for.

*CPanel* gives you all the features found in the Atari Control Panel plus a whole range of others. Features include:

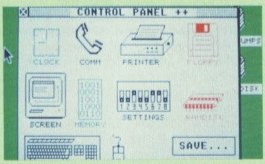
■ **CLOCK:** Allows you to set the system time and date for your ST. You can also adjust the way the date and time are displayed.

■ **COMM:** This menu includes a powerful terminal emulator and facilities for setting up both the RS232 and MIDI settings. A real must for all you comms enthusiasts.

■ **PRINTER:** Sorry, nothing has changed here. *CPanel* uses exactly the same printer menu as the Atari offering.

■ **FLOPPY:** Allows you to format floppy disks.

■ **SCREEN:** While this menu looks suspiciously like the Atari control panel, hidden away you'll find facilities to change the scan rate between 50 and 60Hz – could be handy if you want to use your ST in America. You can also change the Desktop colours to your heart's delight.




■ *CPanel proudly displaying its multitude of wondrous features.*

■ **MEMORY:** Shows you the memory configuration of your machine.

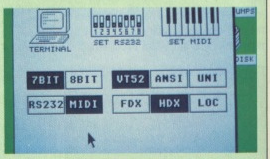
■ **SETTINGS:** Just one function is hidden within this menu, Box Type. Select On or Off to stop the desktop windows from expanding/collapsing as they are opened or closed.

■ **RAM DISK:** Install or remove a RAM disk with ease.

■ **KEYBOARD/MOUSE:** Does the ST keyclick annoy you? Turn it on or off and change the key repeat speed easily.

### Getting going

*CPanel* is a desktop accessory and cannot therefore be run in the normal point-double click manner. To use *CPanel*, you must first copy the file CPANEL.ACC to the root directory of your boot disk by dragging its icon from its folder onto the top of the icon for its disk. (There may not be room to copy the file on the master cover disk – use a copy with some of the files removed.) Once the file is copied, reset your ST with the disk that now has *CPanel* on it in the drive and the program will load. Once the Desktop appears, move the mouse pointer to the DESK menu and select the 'CPanel' menu item. Full instructions are within the CPANEL folder.




■ *The Comms set up page: From here you can configure both the RS232 and the MIDI ports.*

AMIGA

# EXPLODING WINDOW

**PROGRAM:Public Domain**
**MACHINE: All Amigas**
**FILES: EW, EW.DOC**

Do you ever get jealous of that nice window collapse/expand effect that ST users have on their desktop screen? If so, then you can stop looking on in wonder and add a similar effect to all your Workbench windows.

You can unleash exploding windows onto your Workbench screen by double clicking on the EW icon on the Workbench. Full instructions are available within the Exploding Windows drawer.

ST

# LINEUP 4

**PROGRAM:**
**by C. Dancey**
**MACHINE: All STs**
**FILES: LINEUP4.ACC, LINEUP4.DOC**

LineUp4 is a version of the classic board game *Connect 4* that was so popular within homes up and down the country a couple of years back.

The idea of the game is that your opponent (the computer in this case) and you take it in turns to drop counters into seven columns. The aim is to try and get four counters in a row, horizontally, vertically or diagonally while stopping your opponent from doing likewise.

### Getting going

*LineUp4* is a desktop accessory and therefore cannot be run in the normal point/double click fashion. To load it you need to drag the LINEUP4.ACC icon into the root directory of your boot disk. Once copied you'll need to reset your ST with the boot disk in the internal drive and *LineUp4* will be installed. Once the Desktop appears, move the mouse pointer over the DESK menu and select the 'LineUp4' menu item. Further instructions are available inside the LINEUP4 folder.

Those of you who weren't brave enough to attempt our DIY speech synthesiser in last month's issue of *Format* will be pleased to know that you can still have meaningful conversations with your ST with this great software based speech synthesiser. Just think, no soldering, no plugging in, just load *SpeakTex* and that's it!

*SpeakTex* is a simple but powerful speech synthesiser that will allow your ST to speak to you in plain english, in fact any language you choose! Just type in what you want the ST to say, press [Return] and as if by magic (clever programming actually), your ST will talk to you. It's not quite up to the same standard as our hardware offering but we think you'll agree, it's not bad.

ST

# SPEAKTEX

**PROGRAM:**
**Public Domain**
**MACHINE: All STs**
**FILES: SPEAKTEX.PRG, SPEAKTEX.DOC**

### Getting going

You can load *SpeakTex* by clicking on the SPEAKTEX.PRG icon found on the Desktop. Full instructions can be located inside the SPEAKTEX folder.

AMIGA

# DMOUSE

**PROGRAM:**
**Public Domain**
**MACHINE: All Amigas**
**FILES: DMouse, DMouse.Handler, DMouse.DOC**

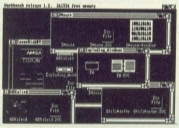
Do you ever feel slowed down by the comparatively lazy speed of the Amiga mouse pointer? While your hand flicks the mouse around at breakneck speeds on your tabletop, the poor old on-screen mouse pointer often seems to get left behind. Enter *DMouse*, a program that turbocharges your mouse pointer into one mean rodent.

In short, it's another one of those 'mouse accelerators' that are in such abundance within the Public Domain libraries. This one, however, caught our eye for two reasons. Firstly, its simple to get running. No complicated copying files from here to there, just double click and that's it. Secondly, it offers some nice extra features such as:

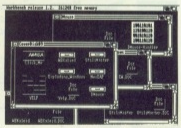
- **Automatic Activation of Windows:** Just move the mouse pointer over a window and it automatically becomes activated. No need to click on the window, *DMouse* does it all for you.
- **Click to Front:** If a window has several windows on top of it, just click anywhere within that window to bring it to the front – you don't need to find the Bring-to-Front gadget, which may be hidden anyway. Click on it again to send it back.

### Getting going

You can load *DMouse* by clicking on the DMOUSE icon on the Workbench. If you wish to copy *DMouse* to a disk other than the master cover disk, you must also use the CLI to copy the file `DMouse.handler` into the same destination directory as the *DMouse* program itself. Further instructions are available within the DMouse drawer.



***You want the window at the very back but can't access the window depth gadgets? What do you do?.....***



***▶ ...just click once in the window and it jumps to the front.***

## HAVING TROUBLE WITH THE DISK?

**We have done our best to check that the programs supplied on this month's disk are simple to use, error free and have no known viruses. However, we cannot answer telephone queries on using the software, and we do not accept liability for any consequences of using the programs.**

**If your *ST Amiga Format* disk is faulty – and out of over 50,000 duplicated some are unfortunately bound to be – you should send it back for a free replacement to:**

**ST AMIGA FORMAT MARCH DISK, DISCOPY LABS, 20 OSYTH CLOSE, BRACKMILLS, NORTHAMPTON NN4 0DY.**

**AMIGA OWNERS: if your Amiga refuses to accept the disk, try using the DISKDOCTOR utility on your Commodore Workbench disk to rescue it before sending off for a replacement. We covered DISKDOCTOR fully on page 93 of Issue 1. Don't worry if every track gives you a 'hard error', this is the Amiga being unable to read the ST software on the disk.**

**This replacement offer is open until the end of March 1989.**

DISK

# HOW TO USE THIS DISK

The *ST Amiga Format* cover disk is a special format disk which both the ST and the Amiga can read. Even if you are a seasoned computer user, please read these instructions carefully or you could permanently damage your copy of it.

The first thing you must do is make a back-up copy of the disk. Because of the special format, the normal disk-to-disk copying methods, as recommended in the Amiga and ST manuals, won't work. Instead you will need to format a blank disk and copy the files individually. Don't panic, this isn't at all difficult.

**ON THE ST** (assuming a single drive machine)

1. Take a blank disk and format it in the usual way.
2. With the blank disk still in the drive, double click on the A: drive icon to open up the (blank) contents window.
3. Now drag the icon for drive B: into the open window of disk A. This will copy all the files one by one off the master disk to your new disk. *Make sure that the master* ST Amiga Format disk is write protected (the sliding tab should be back so the hole is open) and put it in the disk drive when asked for-disk B.
4. You will now be prompted at various times to insert disk A and disk B while copying takes place. There will be a lot of swapping to do on a single drive ST! Disk B should be the master disk, disk A your newly formatted copy.

If you want to cut down on disk swaps, you can use the Eternal RAM disk program provided on issue 5's disk as an intermediate step.

Note that our special cover disk contains about 30K more files than will fit on a standard single-sided ST disk. If you own an old 520, you'll have to be selective and copy only the files you want.

**ON THE AMIGA** (assuming a single drive A500)

1. Start your Amiga up with your normal Workbench boot disk.
2. Take a blank disk and initialize it in the usual way.
3. *Make sure that the master* ST Amiga Format *disk is write protected* and put it in the disk drive. Double-click on the disk icon that appears. Drag any icons you see in the contents window onto the 'RAM disk' icon.
4. When the disk activity light has gone out, put your newly formatted copy disk in the drive instead. Double-click on the RAM drive icon to open its window, and drag program icons from that onto the new disk icon. This copies the files one by one.

The programs may not all fit in the RAM drive at once on an A500 – do whatever will fit, then after step 3 delete them from the RAM disk by clicking once on each and, holding the right mouse button down, selecting discard from the Workbench menu. Repeat steps 2 and 3 for the rest of the icons.

## USING THE PROGRAMS

### ON THE ST

When you turn the ST on and put your disk in the drive, you will see a window opened with the contents of the disk displayed.

Each program will have a number of files on the disk. A program called DOUGAL, for instance, will either have an icon named DOUGAL.PRG or there will be a folder called DOUGAL. If there is a folder, double-click the left mouse button on it to open it up, and you should see DOUGAL.PRG inside it. Just double-click on a program's .PRG file to run it.

Each program should have a corresponding .DOC file – double-click on this and then choose 'Show' from the box that appears to read the detailed info from the author. Always read the documentation before running the program.

Programs described as 'desk accessories' don't have .PRG icons to be clicked on – in this case special running instructions are given with the program descriptions.

### ON THE AMIGA

The main program will automatically run when you turn on your Amiga and insert the cover disk. To get at the rest of the items, you will need to run up Workbench first of all from your normal start-up disk. Once at the Workbench, put the *ST Amiga Format* disk in the drive and double-click on its icon to open it.

You should find on the disk an icon for a program called CLICK_ME; do just this, and after a few seconds the cover disk menu program will have loaded. While loading, the program may ask for the Workbench disk to be inserted: just follow the on-screen requesters.

Most of the programs on the disk can be executed from CLICK_ME by selecting them from the menu and choosing either to view the program's documentation or load the program. If a program fails to load from this menu (this sometimes happens through shortage of memory), you can load it from the Workbench instead, by first clicking open the drawer which contains it then clicking on its icon. For detailed comments from the program's author click on the .DOC file icon in the same folder; to run the program click on the main icon.

When you click on a documentation file, a new window is opened and the text is displayed a screenful at a time. Press any key to move from one screenful to the next, or click on the close gadget in the top left-hand corner of the window to cancel the display.

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Checklist (please tick):

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❑ Name, address, machine type written on label
❑ Disk certified virus free

IMPORTANT – Please sign this declaration:

*This program is submitted for publication by* ST Amiga Format *magazine. It is my own work and has not been submitted for publication elsewhere. I claim my national fame and glory.*

*Signed* .....
*Date*...../...../.....

If you've got any programs for either ST or Amiga which you think other readers would find useful, interesting or amusing, we'd like to know

1. Make sure your program is foolproof to use.
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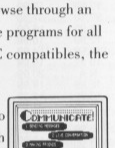


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■ *The Pace Linnet is a popular choice largely because of the good deals available from commercial systems – Microlink have rebadged it and offer good get-you-going deals. For the advanced user there's the Series 4 range which hardly look like modems at all.*

COMMS

# BAUDING SCHOOL

**When the flashy graphics of your favourite game get too much for you, then what do you need? Pick up a modem and sample the magic of comms. MARK HIGHAM gives you the low down on exactly what you need to go shopping, explore your bank balance and meet members of the opposite sex.... all from the comfort of your keyboard.**

Modems are much maligned creatures. So what if they've been responsible for tapping into Prince Philip's Prestel mailbox? He never used it anyway. They had the starring role in Wargames which didn't help their image much, but it's not every bored fifteen year-old who picks up a modem and starts World War III. Most potential hackers would be lucky to find a way into the Open University computer who's only offerings to the computer scene are a shopping list of grossly expensive hardware and brief information on the magic of particle physics – great fun.

### Supply and demand

Way back in issue 4, we had a good long look at the plethora of on-line services you can amuse yourself with. But to get yourself set up for comms, you need four things: a telephone line, an ST or Amiga, a modem, and some software. Let's assume you've got the first two – it's the modem, and software that cause problems.

There are a thousand and one types of modem on the market, all offering subtly different features. What you've got to do is work out which dial-in services you want to use, find out the features they need, and match your modem to that – while leaving room for expansion, of course.

### What can you do?

As times have progressed the world of comms has grown from an elitist band of boring bulletin boards (BBs) and the now infamous Prestel to encompass a wide-ranging universe of intriguing hobbies.

The commercial systems are the easiest to use since most offer get-you-going deals which include a modem and usually some kind of reduced subscription. Micronet is the most popular commercial system. Besides Shades, its on-line game, it offers hugely popular chat-lines which allow users to telephone into the network and scatter messages from one end of the system to the other.

Compunet offers basically the same kind of system as Micronet with its own multi-player game, Federation. It's still very Commodore-based but with popular Party lines, a range of free programs and the specialised software now available for ST and Amiga machines, it's becoming one of the more popular commercial systems.

### Need to know

True viewtext communications software offering 1200/75 baud, isn't well supported on the ST. Atari's popular *Fastcom* is good value at £49.95 but it's viewtext capabilities are dodgy. On the Amiga side there's a problem handling split baud rates making connection to commercial systems on 1200/75 extremely difficult. Kuma resolved the dilemma with their *K-Comm* by forgetting about split baud rates altogether. You just can't connect to Micronet with *K-Comm*. However, other packages have tackled and resolved the difficulty. Products including Y2 Computing's *Ruby View* provide the Amiga with 1200/75 baud and true viewtext.

To use Compunet, you have no choice but to use their own software, although a good modem will ease matters.

### Under the baud walk

For the true comms aficionado, Bulletin boards are the jewel in the crown of communications. There aren't amorphous systems run by megacorporations so they offer a more extensive club forum for computer users to exchange ideas. There

## CORRUPTION IN HIGH PLACES

**Increasingly error-checking devices are being introduced into modems to overcome the problems of line noise. MNP error detection provides a check on data before it is sent and then compares receiving and transmitting data. If they are not the same then retransmission of data is requested. Nine levels of MNP detection exist offering varying methods of data compression. When two MNP modems get in touch with each other they transmit a signal requesting MNP detection and the required level. All of this takes place unknown to the user.**

## HOW IT ALL BEGAN

**In the old days of comms, before BT discovered wall sockets, you connected computers to the phone line via an 'acoustic coupler'. This converted your data into audible whistles (the kind you hear if you dial up someone's Fax number by mistake), and when put through a loudspeaker the ordinary handset would then pick the signals up. Not surprisingly with this Heath Robinson system, it was prone to the slightest noise and so only slower speeds could be used. With the advent of the direct-connect modem plugging into the wall socket, external noise was minimised, higher speeds and autodialling techniques materialised.**

**Modems have made a dramatic leap forward in the last few years and with System X now being installed across the country, the infamous BT gremlins may well be laid to rest and really high-speed systems could become a reality.**

## BELLS AND WHISTLES

**IOkay, so what does all the jargon do for you? Here's all the main features which you're likely to find in a modem:**

**BAUD RATES – 300 is largely redundant now and the higher speeds are the way forward. 2400bps is rapidly becoming a major contender, although most modems need to be able to work at 1200 baud.**

**AUTO ANSWER – automatically answers the telephone quicker than your sister. Not much use unless you intend setting up a BB yourself.**

**AUTO DIAL – extremely useful finger-saving device. It will automatically dial the telephone number as stored in your comms software, work out what baud rate the line you've dialled is working at, and configure itself accordingly.**

**ERROR DETECTION – only available on the higher-priced modems. When connected to a similar modem, invisible checks are inserted in the data so mistakes can be detected and retransmitted.**

**BATTERY BACKUP – allows you to customise your modem to make a note of the settings and return to them next time you turn on.**

**HAYES COMPATIBLE – the industry standard used to tell the modem what it ought to be doing. Unless a modem incorporates this then forget it.**

**SPEED BUFFERING – allows the modem to detect the incoming speed and then transmit data back to your computer at the baud rate for which your software is configured. Great if your software's pretty useless.**

■ *Manual-dial modems, such as Miracom's WS2000, come reasonably cheap. Being manual-dial you'll need to pull out your trusty index finger to dial the number.*

## WHAT WAS THAT AGAIN?

**If you missed the mind-blowing expose of the world of comms in issue 4, here's a brief recap of what goes on...**

**When you dial an on-line service up with your modem, the speed at which you can send and receive data is called the baud rate. The higher the baud rate the cheaper your phone bill will be, but the more error-prone the link. The current 'baud rates' in operation are 300, 1200/75, 1200 and 2400. 300 baud would be 300 bits per second (bps) or 30 characters per second. Many of the commercial systems are running on the split baud rate of 1200/75. You receive data at 1200bps and send it at 75bps.**

**Commercial systems offer more than just scrolling pages of text – Viewtext is the name for systems that offer teletext-style block graphics. Beeb boffins amongst you will probably remember mode 7 graphics. Any viewtext terminal software should be able to emulate these codes, providing flashing, colourful screens.**

**With the cost of a telephone call being one of the major expenses in comms, commercial systems usually have a local computer connection point ('node') in every city. Telecom's PSS network is the alternative offering inexpensive calls around the world. A simple telephone call will link you into the network and two passwords will then get you through to the system you want.**

are in excess of 200 boards listed around the country, and even more which go unpublicised largely because they serve an audience which wouldn't benefit from close BT scrutiny. BBs such as *The Lighthouse* provide news material for all range of interests. Once raided by the police after it was disclosed that it gave out controversial information, an investigation of the board followed. It was eventually applauded for its useful news features.

Emerging amidst the usual range of BB's is a new breed of specialist boards catering for minority interests. The CABB board provides a free on-line game for users as well as giving info about all other on-line multi-user games, useful telephone numbers of gaming systems and passwords providing access.

If you prefer more explicit subjects then there's a range of boards catering for most sexual deviants.

## THE SYSTEMS

| | | |
|---|---|---|
| Micronet | Reg.: £12.99 per quarter. Min. 12 months. | 01-837-7872 |
| Compunet | Reg.: £12.00 per quarter. Min. 3 months | 01-997-2591 |
| Microlink | Reg.: £5.00 per quarter. Min. 3 months | 0625 878888 |
| MABBS | 300, 1200, 2400 | 021-444 8972 |
| Aardvark's Realm | 1200/75 viewtext | 0727 56939 |
| STABB | 300, 1200, 1200/75 | 0793 855176 |
| CABB | 300, 1200, 2400 | 01-773 0408 |
| Phoenix | 300, 1200, 1200/75 | 0249 817704 |
| Gnome at Home | 1200/75 viewtext | 01-888 8894 |

These are a little more tricky to locate but once you've logged onto one you can often get hold of the telephone numbers to other such systems. MABBS provides downloadable text files exploring a range of dubious sexual interests as well as offering picture files in Mac format. These can be viewed using the *Picswitch* program on Issue 1's cover disk – but be prepared for blushes! STABB caters for ST and Amiga owners offering further exploration into this field once you've registered.

■ *A typical viewtext screen from Micronet*

### Making contact

Accessing bulletin boards isn't generally very difficult. Most modern autodial modems will automatically sense the speed of the line and configure themselves to suit, so saving you worrying about baud rates. Just make sure your modem is capable of 300, 1200bps and 1200/75 operation. Increasingly boards are supporting the higher speeds of 2400bps which are more susceptible to line-noise but make downloading or uploading files much faster.

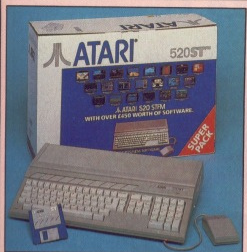
Most available software is adequate (except Kuma's Amiga versionof *K-Comm*) although the additional features of XMODEM transfer protocols are essential if you intend to download files. Packages should support this as well as some method of spooling incoming data to a file so that it can be viewed later. Again, Atari's *Fastcom* seems to be the best for handling spooled data because not only does information go off to a disk but a large window provides you with access to several pages of data.

**Continued on page 48**

■ *There are many modems erupting onto the market armed with a red triangle warning against connection to BT phone lines. These modems offer the same features as the approved ones but at a reduced price. Both Frontier's Supra modem and Datatronics' Discovery range offer 2400 baud rate, auto-dialling and auto-answer at fairly cheap costs. Be warned that, in theory, if BT discover you're using unapproved apparatus they could disconnect your phone line.*

# 520ST-FM SUPER PACK

**1Mb DISK DRIVE**
**£450 OF SOFTWARE**




### ARCADE GAMES

| | | |
|---|---|---|
| Arkanoid II | Imagine | £19.95 |
| Beyond The Ice Palace | Elite | £19.95 |
| Black Lamp | Firebird | £19.95 |
| Buggy Boy | Elite | £19.95 |
| Chopper X | Mastertronic | £9.99 |
| Ikari Warriors | Elite | £14.95 |
| Marble Madness | Electronic Arts | £24.95 |
| Quadralien | Logotron | £19.95 |
| Ranarama | Hewson Consultants | £19.95 |
| Return To Genesis | Firebird | £19.95 |
| Roadwars | Melbourne House | £19.95 |
| Starquake | Mandarin | £19.95 |
| Test Drive | Electronic Arts | £24.95 |
| Thrust | Firebird | £9.95 |
| Thundercats | Elite | £19.95 |
| Wizball | Ocean | £19.95 |
| Xenon | Melbourne House | £19.95 |
| Zynaps | Hewson Consultants | £19.99 |

### SPORTS SIMULATIONS

| | | |
|---|---|---|
| Eddie Edwards Super Ski | Elite | £19.95 |
| Seconds Out | Tynesoft | £19.95 |
| Summer Olympiad '88 | Tynesoft | £19.95 |

### PRODUCTIVITY SOFTWARE

| | | |
|---|---|---|
| Organiser | Triangle Publishing | £49.95 |

### JOYSTICK

| | | |
|---|---|---|
| Atari CX40 Joystick | Atari Corp | £4.99 |

**FREE ATARI BUNDLE VALUE:£458.97**

The Atari Super Pack is ideal for you if you want to get off to a flying start with the best in entertainment software. The Pack includes a 520ST-FM with 1Mb RAM, a built-in 1Mb disk drive, over £450 of top games and a joystick. If you buy the Super Pack at Silica Shop, we will add our own ST Starter Kit (worth over £200), Free Of Charge. Return the coupon for details.

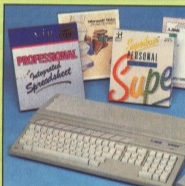
**£399** INCLUDING VAT

With SM124 mono monitor: £498 INC VAT — With SC1224 colour monitor: £698 INC VAT

# 1040ST-FM PROFESSIONAL PACK

## NOW WITH TV MODULATOR

For the serious home user and the small business, we are pleased to announce a new package based around the 1040ST-FM. The 1040ST-FM has 1Mbyte RAM and a 1Mbyte built-in disk drive. In addition, the 1040ST-FM now comes with a TV modulator built-in. (The previously available 1040ST-F was designed for use with a monitor only and did not come with a modulator.) This modulator allows the 1040ST-F to be plugged directly into any domestic TV set, and comes complete with a lead to allow you to do so. The new 'Professional Pack' from Silica includes the new 1040ST-FM with modulator plus four high quality software packages including a spreadsheet, database, word processor and programming language. This 'Professional Pack' software will enable you to get straight down to business with your new computer. In addition to this software (worth £384.84), if you buy the Professional Pack from Silica Shop, you will also receive the Silica ST Starter Kit (worth over £200), Free Of Charge. Return the coupon for further information.




**£499** INCLUDING VAT

| | | |
|---|---|---|
| ATARI 1040ST-FM | (Computer) | £499.99 |
| VIP PROFESSIONAL | (Spreadsheet) | £149.95 |
| MICROSOFT WRITE | (Word Processor) | £149.95 |
| SUPERBASE PERSONAL | (Database) | £59.95 |
| BASIC DISK & MANUAL | (Language) | £24.98 |
| | NORMAL RRP: | £884.82 |
| | LESS DISCOUNT: | -£385.82 |
| | PROFESSIONAL PACK PRICE: | £499.00 |

With SM124 mono monitor: £598 INC VAT
With SC1224 colour monitor: £798 INC VAT

# 2Mb & 4Mb MEGA ST

The MEGA ST computers are styled as as lightweight keyboard with a separate CPU, connected by a coiled telephone style cable. There are two versions of the MEGA ST, one with 2Mbytes of RAM and the other with 4Mbytes. Each version has a 1Mbyte double sided disk drive built-in to the CPU unit. The MEGA ST's do not come with modulator built-in and must therefore be used with a monitor. With every MEGA ST purchased, we will add the 'Professional Pack' software (worth £384.83) detailed above, plus Si- ick ST Starter Kit (worth over £200) both Free Of Charge. Return the coupon for further details.

| 2Mb MEGA ST | 4Mb MEGA ST |
|---|---|
| **£899** INC VAT | **£1199** INC VAT |
| +mono monitor=£998 | +mono monitor=£1298 |
| +colour monitor=£1198 | +colour monitor=£1498 |

# DTP PageStream £149 +VAT =£171.35

Desktop Publishing (DTP) is one of the fastest growing applications for personal computers. We are pleased to announce a powerful low cost package for the Atari ST called PageStream. PageStream costs only £149 (+VAT=£171.35) and, because it works with an Atari 1040ST and a Seikosha SP-180AI printer, you can be up and running with a complete system for less than £1000. Some of the features of PageStream are listed to the right. If you would like further information on this program, complete and return the coupon below, ticking the 'DTP' box in the corner.

* TEXT-FLOW AROUND GRAPHICS
* ROTATION OF TEXT & GRAPHICS
* SLANT OR TWIST ANY OBJECT
* POSTSCRIPT COMPATIBLE
* TAG FUNCTION
* AUTO/MANUAL KERNING & HYPHENATION
* GROUPING OF OBJECTS

# DO YOU OWN AN ATARI ST?

If you already own an Atari ST computer and would like to be registered on our mailing list as an ST user, let us know. We will be pleased to send you copies of our price lists and newsletters FREE OF CHARGE as they become available. Complete the coupon and return it to our Sidcup branch and begin experiencing a specialist ST service that is second to none.

# SILICA SHOP:

**SIDCUP (& Mail Order) 01-309 1111**
*1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX*
*OPEN: MON-SAT 9am - 5.30pm LATE NIGHT: FRIDAY 9am - 7pm*

**LONDON 01-580 4000**
*52 Tottenham Court Road, London, W1P 0BA*
*OPEN: MON-SAT 9.30am - 6.00pm LATE NIGHT: NONE*

**LONDON 01-629 1234 ext 3914**
*Selfridges (1st floor), Oxford Street, London, W1A 1AB*
*OPEN: MON-SAT 9am - 6.00pm LATE NIGHT: THURSDAY 9am - 8pm*

# ATARI ST COMPUTERS

The range of Atari ST computers offers something for everyone. From the games enthusiast who wants the challenge of the very best in arcade action, to the businessman who wants to make financial forecasts or faultless presentations. The ST offers high quality graphics, sound and speed for the gamer, whilst providing a fast, user friendly and affordable solution to business. The ST is now firmly established in the home environment and boasts a wealth of users in education, local government, television, and a variety of different businesses. Software for the range stretches to cover applications as diverse as ENTERTAINMENT, ACCOUNTS, ART, COMMUNICATIONS, COMPUTER AIDED DESIGN, DATABASES, DESKTOP PUBLISHING, EDUCATION, MUSIC, PROGRAMMING, SPREADSHEETS, WORD PROCESSING and more. For a full list of the software available, as well as details of the ST range, complete and return the coupon below.

All prices correct at the time of going to press. E&OE

# 520ST-FM EXPLORER PACK

## WITH BUILT-IN 1Mb DISK DRIVE

The value for money offered by the Atari ST range is reflected in the Explorer Pack featuring the 520ST-FM computer with 512K RAM. The 520ST-FM computer now comes with a built-in 1 Mb double sided disk drive as well as a free mouse controller and a built-in TV modulator. The new 520ST-FM Explorer Pack includes the 520ST-FM computer, the arcade game Ranarama, a tutorial program and some useful desktop accessories. In addition, if you buy the Explorer Pack from Silica, we will give you the Silica ST Starter Kit worth over £200, FREE OF CHARGE. Return the coupon for details of our Starter Kit and of the full ST range.

**£260** ONLY £2.51 PER WEEK — RETURN COUPON FOR DETAILS

+VAT= **£299**

+ SM124 mono monitor: £398 INC VAT — + SC1224 colour monitor: £598 INC VAT

# WHY SILICA SHOP?

Before you decide when to buy your new Atari ST computer, we suggest you consider very carefully WHERE you buy it. There are MANY companies who can offer you a computer, a few peripherals and the top ten selling titles. There are FEWER companies who can offer a wide range of products for your computer and expert advice and help when you need it. There is ONLY ONE company who can provide the largest range of Atari ST related products in the UK, a full time Atari ST specialist technical helpline and in-depth after sales support, including free newsletters and brochures delivered to your door for as long as you require after you purchase your computer. That one company is Silica Shop. We have been established in the home computer field for ten years with an annual turnover in excess of £8 million and can now claim to meet our customers requirements with an accuracy and understanding which is second to none. But don't just take our word for it. Complete and return the coupon below for our latest literature and begin to experience the Silica Shop specialist Atari service.

***SILICA STARTER KIT:*** Worth over £200, FREE with every Atari ST computer bought from Silica.

***PROFESSIONAL PACK:*** Free business software with 1040ST-FM and MEGA ST's bought from Silica.

***DEDICATED SERVICING:*** 7 full-time Atari trained staff with years of experience on Atari servicing.

***THE FULL STOCK RANGE:*** All of your Atari requirements from one place.

***AFTER SALES SUPPORT:*** The staff at Silica are dedicated to help you get the best from your ST.

***FREE CATALOGUES:*** Mailed direct to your home as soon as we print them, featuring offers as well as all of the new releases.

***FREE OVERNIGHT DELIVERY:*** On all hardware orders shipped within the UK mainland.

***PRICE MATCH PROMISE:*** We will match competitors on a 'same product same price' basis.

***FREE TECHNICAL HELPLINE:*** Full time team of Atari technical experts always at your service.

# FREE SILICA STARTER KIT WORTH OVER £200

**WITH EVERY ST - RETURN COUPON FOR DETAILS**

ALL PRICES QUOTED INCLUDE FREE UK DELIVERY

To: Silica Shop Ltd, Dept STAFO3-89, 1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX

**PLEASE SEND FREE LITERATURE ON THE ATARI ST**

Mr/Mrs/Ms: ..... Initials: ..... Surname: .....

Address: .....

.....

Postcode: .....

Do you already own a computer
If so, which one do you own? ..... STAF / 03/89 ☐

## FORMAT BEST BUYS

### FIRST TIMER'S BEST BUY

**Pace Linnet 1200 (good deals offered from commercial systems)**

### ADVANCED USER'S BEST BUY

**Miracom WS3000**

Silica Shop's *On-Line* for the Amiga handles high-speed baud rates as well as excellent spooling facilities, but it's the *Ruby-View* and *Ruby-Term* comms packages which remain the leaders in this field because of the extensive baud rates supported and their brilliant data handling routines.

### Setting up a BB

The first step in setting up your own bulletin board is to get BT to give you a telephone line. This usually requires you to grovel and then hand over a fee of around £115. Most auto-dial modems come with an auto-answer board as well so converting them to set up your own system is unlikely to be too much of a problem. With up to a 50% reduction for Sysops, the *WS3000* is largely regarded as the leader in this field although the Dowty *Quattro* modem is another popular contender. Some Sysops have suggested that the Dowty modem has a tendency to log users off of a system when it decides they don't sound friendly, so a lot of systems are steering clear of it.

Pace's answer to setting up your own system is the *Series 4* range of modems. These have changed the design so that instead of being a little black box with flashing lights it provides an LCD display of the various settings inset into a cream case. It provides an invaluable indication of the strength of the carrier signal and ultimately the reliability of the telephone line.

There's only a limited amount of software available for setting up your own BB so many Sysops have resorted to writing their own. However, Microdeal are coming to their aid by releasing *BBS ST v3* for ST users. It can run on an ordinary 520 but 1Mb of memory and a hard disk are recommended.

Amiga Centre Scotland's *Atredes* package gives a comprehensive system for Amiga owners intending to create their own BB. Both of these packages give you the opportunity to create the system that you want by allowing you to customise areas of the board so that you can control different levels of access to everything from your Aunty Mildred's recipe for jugged armadillo to the the address of President Reagan's retirement home. ■

■ ***The Miracom* WS3000, *Pace* Series 4 1200S *and Dowty* Minimo Plus 3 – *the ultimate choices for would-be Sysops setting up their own dial-in bulletin board systems.***

## THE MODEMS

| MODEM | 300 | 1200 | 12/75 | 2400 | Hayes | BT | BB | Err. Det. | Price |
|---|---|---|---|---|---|---|---|---|---|
| Frontier Supra 2400 | y | y | - | y | y | - | - | - | £199.95 |
| Miracom WS2000 | y | - | y | - | N/A | y | N/A | - | £125.00 |
| Miracom WS4000 | y | - | y | - | y | y | - | - | £175.00 |
| Miracom WS3000 v22bis | y | y | y | y | y | y | y | - | £295.00 |
| Miracom Courier 2400e | y | y | y | y | y | y | y | 5 | £799.95 |
| Pace Linnet 1200 | y | y | y | - | y | y | - | - | £179.00 |
| Pace Series 4 2123s | y | - | y | - | y | y | y | - | £316.25 |
| Pace Series 4 1200s | y | y | y | - | y | y | y | Add on | £458.85 |
| Pace Series 4 2400s | y | y | y | y | y | y | y | Add on | £573.85 |
| Pace Series 4 2400s exec | y | y | y | y | y | y | y | 4 | £631.35 |
| Dowty Minimo Plus 3 | y | y | y | | y | y | y | 4 | £488.75 |
| Dowty Quattro | y | y | y | y | y | y | y | 2 | £914.25 |
| Datatronics Discovery 1200 CK | y | y | - | y | y | - | - | - | £155.25 |

**All Hayes-compatible reviewed included auto-dial and auto-answer boards.**
**BB indicates battery backup features which will maintain the settings during power-off.**
**BT approved modems are indicated by a y in the BB column.**

**Add on unites refer to a plug in board which can be fitted to the Pace RS 232 port, providing error detection up to MNP 4. It comes at a cost of £149.00**

***CONTACTS:***

**FRONTIER, PO Box 113, Harrogate, North Yorkshire, England. HG2 0BE. (0423 67140)**
**MIRACOM, Hadleigh Road Indstrial Estate, Ipswich. IP2 0HB. (0473 233888)**
**PACE, Allerton Road, Bradford. BD15 7AG. (0274 488211)**
**DOWTY, Steebek House, Newbury Business Park, London Road, Newbury, Berkshire. RG13 2PZ. (0635 33009)**
**DATATRONICS, 75 Willow Rd., Solihull, West Midlands. B91 1UF. (021-704 1399)**

## MARY'S ANGELS

**The law on transmission of sexually orientated text and picture files is sketchy but it seems that so long as people are informed about the nature of the files and cannot, therefore, take offence, then the Sysop has done his job. The bulletin board is the only area where you would find this type of material since commercial systems are largely reluctant to cater for such controversial subjects. However, that said, one of Micronet's most popular areas is the unpublicised gay section – a closed user group for gay users to exchange messages. Mary Whitehouse would not be amused.**

## MICROLINK

**Microlink is a text-based system aimed primarily at business users. It doesn't have the colourful viewtext graphics but with the opportunity to send fax messages and telexes all around the world it's used by many businesses. It has the advantage of being part of the PSS network which has local telephone numbers all over the country and allows users to contact it at baud rates of 300/300, 1200/75 and 1200/1200.**

# LAN COMPUTER SYSTEMS

**SHOW ROOM open Mon to Sat 10.30am to 5:30 pm Telephone 01-597 8851**

## ATARI SYSTEMS

520STFM ..... £239.00
1040STFM ..... £369.00
Please note 1040 now includes T.V. modulator at No Extra Cost!
ATARI MEGA SYSTEMS
Mega 2 ..... £699.00
Mega 4 ..... £999.00

**ATARI'S NEW 520 STFM WITH 1MB DRIVE £289 INC VAT IN STOCK**

**ATARI'S New Super Pack:**
**520STFM Computer with 1Mb integral drive + all this software**

Arkanoid 2 - Wizball - Black Lamp - Quadralien - Eddie Edwards - Super Ski - Starquake - Xenon - Return to Genesis - Zynaps - Test Drive - Explorer - Buggy Boy - Ikari Warriors - Beyond The Ice Palace - Thundercats - Chopper X - Thrust - Road Wars - Marble Madness - Summer Olympiad - Seconds Out

**All this for the incredible price of just £299.00 + VAT**

## PRINTERS FOR THE ATARI

Citizen 120d ..... £99.00 + Vat
Panasonic 1081 ..... £139.00 + Vat
Star LC10 Printer ..... £189.00 + Vat
Star LC10 Colour Printer ..... £233.00 + Vat
Star LC24 / 10 Printer ..... £299.00 + Vat
NEC PP2200 24 pin Printer ..... £279.00 + Vat
NEC P64 ..... £469.00 + Vat
Epson LX800 ..... £179.00 + Vat
Printer Cable ..... from £5.00 + Vat
Printer Stand ..... £19.95 + Vat
Printer Ribbons ..... from £33.00 + Vat

## DRIVES FOR ATARI

Cumana 1MB disk Drive ..... £109.95 inc VAT
Including all the connecting cables and power supply unit
FREE 10x3.5 DSDD disk ..... FREE Disk Drive Cover
FREE Mouse Mat ..... FREE Delivery in UK

20MB Hard Disk For the Atari £379.00 + Vat
Supra 30MB Hard Disk ..... £469.00 + Vat

5.25 1MB Disk Drive 40/80 Switchable ..... £139.95 inc VAT
Including all the connecting cables and power supply unit
FREE 10x5.25 DSDD disks ..... FREE Disk Drive Cover
FREE Mouse Mat ..... FREE Delivery in UK

## STAR LC 10

**LC - 10**
**COLOUR printer NOW IN STOCK**
**£233 plus VAT**

## MONITORS

ATARI SM 124 High Resolution Monochrome Monitor £99 + Vat
1084 Colour Monitor £199 + Vat
If ordered with Computer £189 + Vat
Philips CM8833 Monitor £219 + Vat
If ordered with Computer £209 + Vat

## TV TUNER

**TV TUNER**
Turn your monitor into a TV. 12 Programme selections complete with all cables. Switchable between TV and computer
£55.00 plus VAT
If ordered with monitor
£50.00 plus VAT

## ACCESSORIES

Mouse Mat ..... £4.95
Printer Cable ..... £14.95
Disk Drive Dust cover ..... £3.95
Monitor Dust Cover ..... £4.95
Atari ST Dust Cover ..... £4.95
10 x DS 3.5" disks ..... £14.95
Atari Joysticks ..... from £9.95
Printer Stand ..... £19.95
Monitor Stand ..... £19.95
2000 sheets of paper ..... £18.95
Disk Cleaner 3.5" ..... £7.95
Disk Cleaner 5.25" ..... £7.95
20 DS 3.5" disks in lockable Box ..... £29.95

## HOW TO ORDER

Enclose letter with cheque, postal order or credit card number for amount including VAT and delivery charge. Credit card holders may order by telephone contact sales desk. Despatch normally within 24 hrs.

Official Orders from Educational Establishment, Local Authorities and Government Departments welcome. Contact Education Dept.

**EXPORT HOTLINES 01-597 8854**
**TELEX: 995548 FAX 01-590 6057**

Dealer and export enquires:
Contact Trade Dept.
ALL SOFTWARE AND BOOKS INCLUDE VAT AND DELIVERY
ALL HARDWARE SYSTEMS £10.00 COURIER SERVICE
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# PD UPDATE

**Have you grown bored of all those games Granny Gertie bought you as a Christmas present? Where can you get quality software for nowt? It's tough keeping your computer happy these days so there's only one thing to do – saunter down the PD libraries of course!**

## AMIGA

**The programs listed in this month's Amiga PD Update were taken from the TBAG collections of public domain software. Most can also be found in other libraries but the numbers quoted refer only to the TBAG collection. As far as we are aware, George Thomson Associates are the only PD supplier to support the TBAG range of disks, but check the advertisements within *Format* for others.**

### CHET SOLACE SHAREWARE EXTRAVAGANZA

As a break from tradition, the Chet Solace *Shareware Extravaganza* is not a single program but an entire disk packed with the very best of Public Domain programs. This little gem is currently only available from George Thomson Associates at the reasonable price of £4.99.

As the name suggests, all the programs on the Chet Solace disk are Shareware.

Many of the Chet Solace programs are completely new to the PD circuit and have therefore never been seen in this country before. Even the popular Fred Fish – he of Fish disk fame – hasn't seen them!

One particularly good thing about the Chet Solace collection is the way each program is presented. As well as the disk being completely self-booting (always a useful feature), the programs are crunched to allow as much material to be crammed onto one disk as possible. In addition, all the program documentation files are presented with up to eight colours being manipulated on the standard Workbench screen. Eight colours? I hear you ask. Yep, the Chet Solace disk even includes a program to increase the number of colours available under Workbench.

Programs on the disk include the now famous *Pointer Animator* which, as the name suggests, allows you to animate your mouse pointer. Another program is a rather obscure molecular structure viewer called *MicroView*. It might appeal to the physics boffins out there but your average armadillo wouldn't think too much of it. The Chet Solace collection is certainly an offer not to be missed.

### TILES
### Tbag disk 21

On a not so serious note, the next offering is an excellent game which has kept most of the *Format* team going during these cold February nights. *Tiles* is a version of the classic chinese game of *Mah-Jong*, made famous by Activision's *Shanghai*.

If you've never played *Mah-Jong*, then you just don't know what you've been missing. *Mah-Jong* is a bit like looking at a photgraph of Edwina Currie – one glance and you'll fall head-over-heels in love.

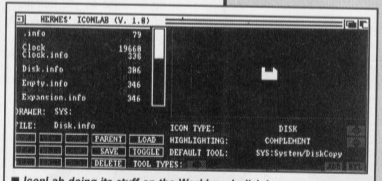
The objective is to remove tiles which have been stacked in the shape of a pyramid. This can be achieved by locating matching tiles which can be freely moved either to the left or right. In the event that both sides have been blocked then the tile cannot be removed. Once all tiles have been successfully taken out then the game's over and you've earnt yourself a kiss. Sounds easy? Don't bet on it!

### ICONLAB
### Tbag disk 22

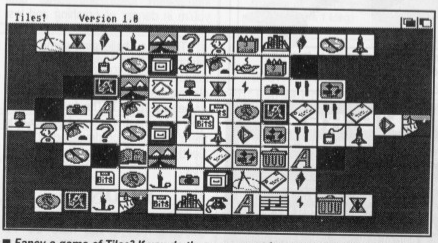
Do Amiga icons baffle you? If so, IconLab could be just what you've been looking for. It allows you to create and modify Workbench icons with ease.

We've already featured some excellent icon utilities on the *Format* cover disk but *IconLab* includes several powerful facilities which make it stand out from the rest. For example, any icon can be loaded up and with a mere click of the mouse button the icon attributes may be changed quicker than Joan Collins can have a new face-lift.

It doesn't include any facilities for creating icons from scratch, so you're




■ *IconLab doing its stuff on the Workbench disk icon.*




■ *Fancy a game of Tiles? If you do then reserve at least a couple of days and arm yourself with piles of rice - you'll need it to get through the night!*

probably better off using *IconLab* only in conjunction with an icon designer such as *IconMaker* which appeared on cover disk five.

## SetKey

## TBAG – Disk 22

This is definitely a program for the techies amongst you. *SetKey* is designed to allow you to create customised keymap files. Using the *SetMap* command on your Workbench, you can have the keyboard configured precisely to your liking. Just think, you could have every key displaying the letter 'A' – and that's got to be useful!

This was actually once a commercial product but due to lack of sales,it was decided to release it into the public domain network. It's a very useful program which is probably the reason Commodore didn't put a similar one onto the new Workbench release, 1.3.

Using *SetKey* is simplicity itself. The customised keymap can be created by loading the program at which point you're presented with a picture of an Amiga keyboard. Alterations are made by clicking on the key you want to change and entering a new value.

**Jason Holborn.**

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# ST

**Christmas is the season to be jolly and February is the month to pay off those Christmas debts. So, especially for those of you who found a computer in your Xmas stocking but not much money to buy all those exciting games with, this month's PD article is a round up of the very best in PD games.**

## JUMPSTER

First up is *Jumpster*, a reasonable conversion of the great arcade favourite *Qbert*. You control an odd creature who looks, like a cross between a human being and a spring. This creature is placed on assorted game surfaces made up of different coloured squares on varying levels. The object is to jump from cube to cube and change their colours while avoiding an assortment of different nasties and traps that are out to stop you in your tracks.

The colourful graphics are equal to the arcade version of *QBERT* itself and the game play remains just as challenging because as you complete one screen you progress onto another, more difficult level.

The only criticism is one which many multi-level games share: the inability to begin playing on another level other than the first. Every time a game ends you must begin again at the first level and this level begins to be overly familiar and monotonous.

## BLITZ

The next game is *Blitz*, written by the respected UK PD software house, Budgie UK. Budgie are responsible for a large number of quality PD games which can be found scattered throughout the PD libraries.

The object of *Blitz* is to attempt to land three biplanes. Unfortunately, the ground below is not ideally suited to smooth landings and even a Boeing 737 pilot would be hard pushed to find a safe place to crash. Not to put too fine a point on it, your intended landing strip has a city built on it! The only sensible way of landing is to first flatten the buildings by dropping bombs on them.

This isn't as simple as it sounds since correctly aiming the bombs takes skill and concentration. It also becomes increasingly dangerous since your three airplanes travel increasingly lower and faster until you're in danger of crashing and losing.

This is a challenging game which might not win any Format Gold medals but it's certainly similar to playing one of the top quality 8-bit games on the ST. The levels of difficulty become harder and harder and there's a skill to be developed in proficiently passing as many levels as possible.

## BOUNCE

Owners of a mono-monitor (or a colour screen if you have the PD mono emulator) will be able to benefit from *Bounce* which is one of the best *Invaders* type games seen on the ST either commercially or in the PD libraries.

You control a cannon which can be moved across the bottom of the screen. You must use it to shoot bouncing balls and eliminate them before they smash into you. Should they stop bouncing, they'll begin to roll and steamroller your cannon into oblivion.

After different screens featuring more and more frantically bouncing balls, those bouncing aliens start to give you a taste of your own medicine by arming themselves with high-power laser cannons. The action continues with screen after screen of vicious aliens hell-bent on your destruction.

## ORBIT

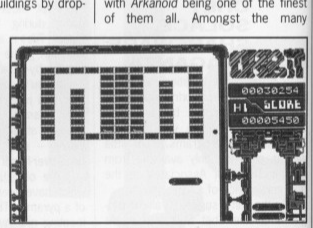
The original *BreakOut* has probably earned the title of most imitated game with *Arkanoid* being one of the finest of them all. Amongst the many *Arkanoid clones* in the PD is *Orbit*, a game which is also given away with the new STOS games language as an example of its capabilities.

*Orbit* is played in a similar to its forefather with one major difference – it's infinitely more challenging; It takes pin point accuracy and strategic planning to succeed in this game.

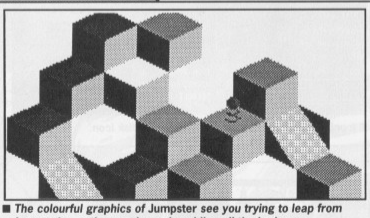
For those who can get past the many different screens in the game, there's a construction set built in which allows you to design your own playing areas.

All in all, *Orbit* is an excellent game in the customarily popular *Breakout* vein. If this had been created before *Arkanoid* it's possible that it might have received similar commercial success. But it wasn't which is why you can get your hands on it all for the minimal price of a PD disk.

**Elliott Stein.**




■ ***Yet another Breakout clone rears it's head on the PD scene. Orbit is considerably more challenging with pin-point accuracy an essential requirement. With a special construction set you can even design your own screens.***



■ ***The colourful graphics of Jumpster see you trying to leap from cube to cube, acting macho and avoiding all the bad guys.***

## BEST OF THE REST

**Here's a list of the titles worth looking out for next time you take a stroll into the Public Domain libraries:**

**PD WORKSHOP LIBRARY PACK – Another disk full of programs. This is only available from George Thomson Associates. For £4.99 you get two disks crammed with the very latest and greatest in PD software. One particularly good program is 'Orbit3D', a three-dimensional game which comes with a pair of red/blue glasses, essential to appreciate the startling 3D effects.**

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NEWS

# SCREEN PLAY

**It's been a good month for the Amiga, gaining both Format Golds – well, last month the ST swept the board. Dragon's Lair lives up to and exceeds expectations and War in Middle Earth provides great cerebral entertainment. MARK HIGHAM and GARY BARRETT delve into jiffy bags and come up with the best games of the month and the shape of things to come.**

## PREVIEWS

### BATTLEHAWKS 1942

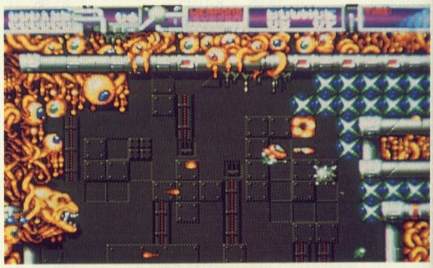
**LUCASFILM ■ ST & Amiga**
**£24.95 ■ End of March**

Lucasfilm have always had a reputation for bringing out very good games and that looks set to improve with their next release, *Battlehawks 1942*. A flight simulation with dogfights galore, three different types of Japanese aircraft and three American planes do battle over the Coral Sea, Midway Island, the Eastern Solomons and Santa Cruz. There are thousands of flying hours to log and you can even see an action replay of your success or failure.

### CYBERNOID II

**HEWSON ■ ST & Amiga**
**£19.99 ■ Due April**

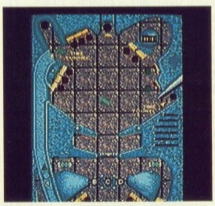
Tony Cooper, author of Hewson's much-loved *Cybernoid*, is currently finishing off a sequel with the mindblowingly unique name of *Cybernoid II*. Those cuddly pirates are back, but with a revamped ship incorporating loads of extra weapons you should be able to blast through them far more easily. There are countless levels to complete and still plenty of tricky hazards to avoid.



▲ *The early stages of* Cybernoid II *on the Amiga.*

### TIMESCANNER

**ELECTRIC DREAMS ■ St & Amiga**
**£19.99 /£24.99 ■ Due April**



▲ *A new twist to pinball in* Timescanner

Pinball has been in existence since the dawn of time, and computer pinball has been around almost as long as computers. *Timescanner* is a conversion of the Sega arcade game, with four levels divided into two screens and with smooth-scrolling between the levels. It claims to have a realistic tilt feature – if so, it'll be a first.

### DRAGONSCAPE

**SOFT. HORIZONS ■ ST & Amiga**
**£19.95 ■ ST February/Amiga March**

Dragons get some good publicity in Software Horizon's new game; well pet ones do anyway. Garvan is the name of the reptilian pet and you ride on his back over a multi-directional scrolling landscape of the world of Tuvania.

The King of Kaos has dispatched legions of nasties to destroy your kingdom and you have to deal with them in the usual manner – gratuitous violence. With five levels, each one covering 40 screens, you'll have plenty to do.

### THUNDERWING

**ARTRONIC ■ ST & Amiga**
**£19.95 ■ February**

If you have a tendency to destroy everything in sight, including your joystick, when playing shoot-em-ups then Artronic's next release may cause you some problems.

In *Thunderwing* you have to fly over a vertically scrolling landscape blasting away at enemy bases, but at the same time doing your utmost to leave the civilians in one piece, and preferably not a dead piece. Lots of levels, lots of enemies and lots of innocent bystanders to massacre.

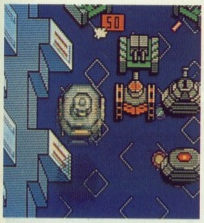
▲ *Slay the enemy, but don't hurt the civilians in* Thunderwing

▲ *From Bullfrog, the authors of* Fusion, *comes* Populous, *a new game with divine overtones. Two nations are born: one good and the other evil (same old story). each has their own deity, and guess what? Both nations seek to exterminate the other. You can choose to play either God or the Devil, which mostly includes beating up the other nation. Options cover multi-player games between two STs, two Amigas, an ST and an Amiga, or even by modem for the comms freaks. We've got the definitive review lined up for next month – watch this space.*

## VINDICATOR

**TENGEN ■ ST & Amiga**
**£19.95 ■ Due April**

*Vindicators* is the first ever release under the new Tengen label. It's been converted from the addictive Atari coin-op game of the same name and offers 3D, multi-directional scrolling.

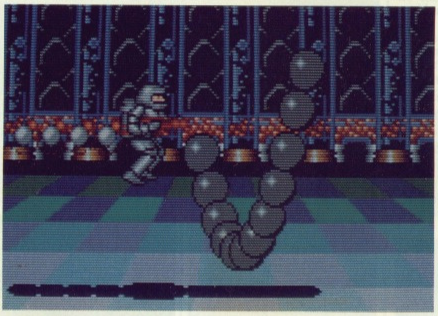


▲ *Play at tanks in* Vindicators.

It's set in the year 2525 outside the galaxy TR15. As team commander of an SR-88 strategic battle tank you take control of your own destiny in the fight to destroy the evil Tangent Empire.

Options to customise your tank so that it can support an arsenal of weapons and super-powers look set to make it the typical type of bloodlust game which always gets you salivating.

◀ *Titus are releasing* Knight Force *for the ST and Amiga sometime in April. The game sees you playing the son of Krohn, a warrior, and you have to wander through unlikely landscapes in an attempt to annihilate the different dragons and sorcerors. Twelve levels, digitised sound effects and 3D animation make up the action.*



▲ *Be Mr Nasty for a change in* Guardian Moons

## GUARDIAN MOONS

**MICRODEAL ■ ST**
**£19.95 ■ February**

Mrs. Whitehouse, read on... *Ridiculax* is the incomprehensible word recently conjured up by Microdeal to describe the multi-layer, multi-directional, parallax scrolling of their new game.

For a change you get to be a nasty piece of work – the most sadistic and psychotic terrorist of them all who can go round causing havoc and destruction everywhere – sounds like a trip to Sainsbury's. Your objective is to destroy the eight guardian moons that protect the peaceful planet of Gargamadua and trash those pesky do-gooders. Sounds like lots of mindless violence, but isn't that what computer games are all about?

## MIXED ASSORTMENT

**This month saw the arrival of 18 games for the ST and 16 for the Amiga in the Format offices. After hours locked away in a darkened room, our dedicated testers declared *War in Middle Earth* and *Dragon's Lair* as the victors. The superb graphics of *Dragon's Lair* demonstrate just what an Amiga can do and it's all without the aid of a laser disk – pure unadulterated bliss. *War in Middle Earth* is based on Tolkien's *Lord of the Rings* (see the film at Christmas?) and features plenty of strategy and some excellent graphics.**

**But onto the cutting room floor fell Infogrames' titillation for the Amiga, *Teenage Queen*, a strip poker game. It comes with loads of pictures and some cute French giggles. Don't expect to get the young lady in question undressed quickly though – she's a good card player.**

**On the update front, Amiga versions of *Live and Let Die* by Domark and Gremlin's *Mickey Mouse* appeared this month, both being very similar to their ST forefathers. Also on the Amiga there's *Phantom Fighter* from Martech, a shoot-em-up in the *Menace* vein, although nowhere near as good. *Spaceball* from US Gold is nothing more than a cross between breakout and tennis. In a refreshing change to the usual hype, a US Gold personage (who shall remain nameless to protect the innocent) told us, "I can't see why we bothered working on it at all." Nor could we.**

**ST games that didn't make it this month include *Advanced Rugby Simulator* (pretty awful, even for Codemasters), *Highway Hawks* by Anco (no, there aren't any naked women in it), *Times of Lore* from Microprose and *Superman* by Tynesoft (great graphics, shame about the underpants).**

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# DRAGON'S LAIR

ENTERTAINMENT INTERNATIONAL

**Amiga – £44.95. Joystick/Kbd. A500/A2000 with 1Mb, A1000 with 512K.**

**ST – No version planned**

**First there was the laser disk game which spawned an arcade revolution; then there was the ST adaptation which created Atari revulsion. Now the Amiga version has reared its green, fire-breathing head. Computer animation was never intended to be easy – otherwise everyone would be doing it – and *Dragon's Lair* offers the Amiga owner a costly but stunning insight into the fiendishly evil world of colourful Dragons and misshapen maidens.**

▲ *Daring Dirk negotiates some way of getting into the castle but whoever built this place has obviously been watching too many BBC DIY programmes.*

▲ *Cling onto the bridge and wave your sword around as if you know what you're doing.*

▲ *Once you've scared off the purple fiend you can pull yourself up through the hole and dash off to the next scene.*

## STRATEGY

With bottles of poison scattered around, weird blue-rinsed tentacles hanging across the moat and a whole army of crazy bats, the only sensible way to defeat them is to pull out Dirk's trusty sword. This might be okay but it doesn't tend to have too much effect if it's not drawn at precisely the right moment.

By pressing the fire button you're instructing Dirk to draw the sword, and you must then trust to his own aim. This is the way most of the scenes work. You don't have any command over Dirk until specific points when you're required to perform the right moves with the joystick. For example, when you wander into a room you cannot steer Dirk around except along a few predefined paths, and you can't pull out the sword until the Dragon gets close to you.

As you progress through a room, inanimate objects – usually doors – begin to flash. By heading towards these you can beat a path to the next level. However, if you see something flashing on one of the creatures then avoid it like the plague – it's a sign of instant death.

With only three lives you don't get much of a chance to negotiate with the monsters. Despite the fact that each level only requires a few simple movements of the joystick at the correct time, it's no easy task discovering which moves to make and when. However, seasoned Lair players should find a welcome similarity to the original arcade game.

## LASERS ON THE ST

Although there's no ST version of *Dragon's Lair* planned, the game has already made an appearance on the Atari.

Early last year, Microdeal arranged a scheme whereby owners of a special video disc player could buy the *Dragon's Lair* disc and control the game from your ST. The laser disc player needed its own TV screen, and the ST connected to the player. At strategic points in the action the motion would stop and your ST's screen would ask you to press a key to go left or right, draw your sword, and so on. Then Dirk would carry on – hardly gripping interactive stuff.

▲ *Don't think Daphne's down here somehow. It might look like a yuppie wine bar but it's one of the hardest obstacles – one mistake and you're through the floor.*

▶ *Strange how the place crumbles when you put your foot down.*

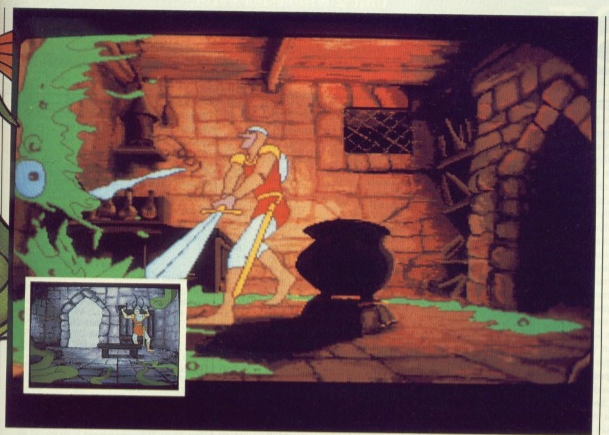
## GRAPHICS AND SOUND

The animation is spell-binding. It's the sort of thing that programmers would gaze at in awe and Granny Gertie says "I saw this on TV yesterday afternoon." The characters are animated so smoothly and with accurately moving limbs that you won't know you're not watching a conventional cartoon.

The game comes on six disks and claims to incorporate, in compacted form, a massive 130 Mb of brilliant action.

Monsters look great. Singe isn't exactly the most frightening Dragon you'll ever meet but since you don't get to see too many of the fellows whilst you're wandering around the Sainsbury's battle-field you'll probably find him an intriguing foe. With an extraordinary resemblance to the original arcade game you'll quickly find that it's a far cheaper way of locating the desirable Princess Daphne.

Sound is fairly extensive as well. With atmospheric background effects and a range of squeals and screams as duelling Dirk meets his end, it's the sort of thing which Mary Whitehouse would spend a lifetime denouncing.



▲ *Always beware of an empty room – Singe and his mates have a burning desire to pop up all over the place and cause havoc and mayhem at inopportune moments.*

◀ *Considering he hasn't had his morning dose of Listerine yet, he's in a pretty friendly mood but it's still hard dealing with Singe especially when he has this nasty desire to act macho and bite your head off. (inset) Flashing inanimate objects like this door point the way to the next level, but can dozy Dirk make it in time? It's tough being a hero.*

## AIM

What d'you mean you never played the arcade game? OK, here's the plot: That courageous and flat-footed hero, Dirk the Daring, takes to the Dragon's Lair like a duck to the roasting skewer to rescue the sullen Princess Daphne. Given that he's about to confront fire-breathing Dragons and a castle in such an appalling state of repair that it crumbles under every footstep, you can hardly blame him that he looks decidedly unhappy.

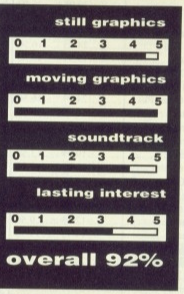
The game starts with Dirk venturing off to the castle and marching blindly over a bridge riddled with holes which don't appear until he falls through them. Now dedicated Dirk is nothing if not strong. He clings onto the bridge with all his might, kicking at the purple tentacled monster about to wrap its loving arms around his neck.

◀ *After a hard day rescuing Daph you see a chance to down a lager. Keep him off the blue potion – it might look like a pint of Castlemaine XXXX but it'll kill you far quicker.*

This is your first obstacle and it's only by pulling out the sword at the right moment and moving up on the joystick that you progress any further. If you haven't played *Dragon's Lair* before then you're going to spend some time wondering how on earth you get any further but perseverance usually brings repeated death followed by eventual success – a bit like eating eggs!

After a bout of poisoning, Dirk enters a room populated by some friends of Singe the Dragon, who just happened to pop over to indulge in a bit of evening maiden-eating. But these chaps aren't too fussy and Dirk will do just as well. Being lovingly strangled to death just about bursts every blood vessel in his face – out pops his tongue and up pops the Remaining Lives message.

This is where your stamina is taxed pretty much to the limit. Other screens which follow are likely to take hours of play to master, especially the stairwell which looks damned near impossible. With only a single sheet as a manual you must go back again and again if you're going to resolve each obstacle. Once you've managed to overcome them all then devilish Dirk is in for a treat from the delectable Daphne.



▲ *One drop and it's bye bye, Dirk.*

▲ *At last your prize, Dirk you lucky boy*

## CONCLUSION

The game is not exactly well-documented but that's largely because once you've learnt how to overcome a problem then it will never be a problem again. For example, in the poison bottle room, all you need to do is hold the joystick to the right as soon as you enter and you'll magically get through to the next room without any hassle at all.

Considering that the game is supplied on six disks, the number of disk swaps is not too bad. The game is arranged with about fifteen seconds of action followed by twenty seconds of disk accesses to load the next level. This can become tedious and certainly tends to reduce the addictive quality, but considering the amazing graphical animation it's hardly surprising.

*Dragon's Lair* is far ahead of its time and it's definitely like nothing else you've seen on the Amiga. It's the best argument yet for going out to buy that memory upgrade you need.

# clik-ST

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| Sundog | 24.95 | 16.50 |
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| Tanglewood | 24.95 | 16.50 |
| Tetris | 19.99 | 13.50 |
| Thrust | 9.99 | 7.50 |
| TNT | 19.99 | 13.50 |
| Tournament of Death | 19.99 | 13.50 |
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| Trash Heap | 19.95 | 13.50 |
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| Turbo | 9.99 | 7.50 |
| Typhoon | 19.99 | 13.50 |
| Thundercats | 19.95 | 13.50 |
| Time and Magik | 19.95 | 13.50 |
| Trivial Pursuit | 19.95 | 13.50 |
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| Terrestrial Encounter | 14.95 | 10.50 |
| Terrorpods | 24.95 | 16.50 |
| Three Stooges | 24.99 | 16.50 |
| Tour De Force | 19.99 | 13.50 |
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| Ultima IV | 24.95 | 16.50 |
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| Verminator | 24.95 | 16.50 |
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| G.F.A Complier | 45.95 | 32.50 |
| G.F.A Draft | 99.99 | 72.50 |
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# WAR IN MID

MASTERTRONIC

**Amiga – Mouse. Reviewed. £19.99** | **ST – Due end of February**

**Mastertronic's latest incarnation of the classic fantasy novel *Lord of the Rings* is a wargame with a difference. With Frodo and his mates wandering off to destroy the One Ring you just know that if left to his own devices he'd have that ring melted down in no time at all, and still get back home in time for tea and crumpets. Unfortunately you've got to control him and make sure the ring doesn't get to Sauron – an evil guy who's got no right to wear jewellery.**

▲ *On their way to Rivendell, Frodo and Aragorn, meet up with a Nazgul. If the Nazgul wins the ring will be taken to Sauron and the war will end abruptly.*

▲ *Mount Doom, Frodo's ultimate destination, the only place where the One Ring can be unmade and Sauron's defeat assured.*

▲ *Saruman the White, once head of the order of the Wizards, is now an enemy, his home is the tower of Orthanc.*

▲ *Theoden, king of the mark, lives in the golden halls of Edoras. Riders of Rohan make excellent warriors.*

## AIM

Long ago in the early years of the second age the Elven Smiths forged rings of power: three for the Elven Kings, nine for mortal men and seven for the Dwarf Lords. Sauron, the Dark Lord, forged a master ring, the One Ring, which would rule them all. With it he could control Middle Earth. When the One Ring was finished he put it on his finger and the wearers of the other rings were aware of Sauron's aim.

A great war was fought and many died, but eventually Sauron was defeated by the forces of elves and men. The Ring was taken from Sauron and should have been destroyed but was it was not. The One Ring fell into a river and there it lay for hundreds of years.

The ring was eventually found by Bilbo Baggins, who passed it on to his nephew, Frodo. Meanwhile Gandalf the wizard had been wandering all over Middle Earth trying to find out more about the ring and not realising that it was the One Ring. As soon as he found out he returned to the Shire and told Frodo that it must be destroyed.

*War in Middle Earth* begins as Frodo leaves the Shire with his friends Sam and Pippin on their journey to end the ring's magical powers. Under your command his first problem is to reach the temporary safety of the House of Elrond in Rivendell. The action is played on two levels: the ring quest and a tactical wargame.

▲ *Gandalf the Grey (blue?) rests for night. It's a tiring job trying to motivate the forces of good.*

## THE RING QUEST

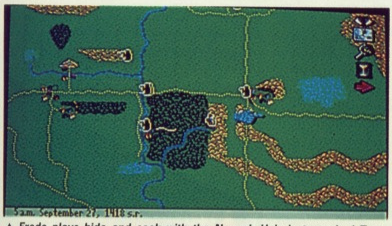
The ring can only be unmade in the burning fires at the heart of Mount Doom's volcano. Frodo must be guided from his home in the Shire to the land of Mordor, realm of the Dark Lord.

The early stages of the game involve getting Frodo, Sam and Pippin to Rivendell in one piece. This is where the Fellowship of the Ring is formed – a sort of later day Freemason's without the lessons in sheep castration. On your way you'll join up with Merry and Aragorn and spend so much time avoiding Nazgul, the most powerful of Sauron's servants, that you'll start wondering whether you wouldn't prefer to slip the ring on and disappear altogether.

On the tactical side you have to move the forces of men, elves and dwarves to stop all the evil dross that fight for Sauron and Saruman, a turncoat wizard. Initially you have only a few armies who obey your orders, but more begin to respond and war breaks out on a larger scale as Sauron shows his hand.

# IDDLE EARTH

FORMAT GOLD



▲ *Frodo plays hide and seek with the Nazgul. He's just reached Tom Bombadil's house.*

▲ *Erebor, the Lonely Mountain, once home to a red/gold dragon by the name of Smaug the Magnificent. Now the dwarves have it, but if they're not careful it'll just become another orc hole.*

▲ *Sitting upon his black steed sits one of the nine Ring Wraiths or Nazgul. Beware these fell beings, they may not look as fearsome in the game as they do on the title screen, but they're still deadly.*

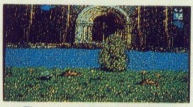
## GRAPHICS AND SOUND

The graphics are in three different stages – world map, detailed map and the individual location. Armies on the scrolling world map are only indicated by flashing dots. When you zoom into the detailed map you're presented with small graphics to represent each army. There's no problem at all in working out when you've been killed – you flop on the ground and look thoroughly dead.

The main map is scrolled swiftly and smoothly by clicking on a pointer until you find an army. Zooming in again lets you see impressive detail and lots of colourful scenery. The sprites of the various characters are adequate, but more effort could have made them vaguely realistic. All text messages appear in yellow-edged scrolls which give the game an atmospheric feel.

▲ *Middle Earth, a world on the brink of war.*

There are plenty of tunes, but the Amiga is capable of performing more than you're actually given. Sound effects are average, but not in abundance, a few battle spot-effects and a liberal scattering of others are all on offer.



▲ *The gate to Moria, within lurks Gollum, orcs and the fiery Balrog. Enter at your own risk.*

▲ *The first battle of the Hornburg has been won. But will in stand up to more assaults from Saruman's orcs of the white hand?*

## CONCLUSION

War in Middle Earth is one of a rare breed of wargames that looks as good as it plays. The computer forces moves logically so your enemies don't just wander around the map randomly obliterating you. It'll take you hours to play a game from start to finish so a Save Game option comes in pretty handy although a feature to play at hasty or very hasty speeds allows you to skip through any tedious battles. However, when it comes to a vital confrontation, such as the battle of the Hornburg, you can go there and modify your tactics. If you find you can't beat the hell out of your enemies – a common problem – then you'll be able to retreat and come back later life starts to get boring.

**Gary Barrett.**

## THE WARGAME

A large map of Middle Earth shows the disposition of your armies and those of Sauron. On the close-up map you can obtain detailed information about any army, whether they fight for good or evil and give orders to the good armies. Using the magnifying glass again will take you to a side view of the chosen characters as they walk or ride across Middle Earth. In this mode you receive detailed messages from other characters and can also pick up any objects lying on the ground, for example, an elven sword at Tom Bombadil's house.

When a battle takes place you have the option of 'going to it' or 'ignoring it'. Going to the battle allows you to decide tactics which can employed to a limited extent: charge, engage, withdraw or retreat are the available options – no chance to pull out a bottle of Lucozade though. Orcs are cannon fodder, but trolls take more killing and have a nasty tendency to inflict so many heavy casualties you can't help wishing they'd climb onto the end of a 150mm bazooka.

The game comes to an end very quickly if a Nazgul gets his grubby hands on the One Ring. He dashes to Mordor at the speed of light and you can either cross your fingers he'll get squashed by a lawnmower or alternatively make some attempt to stop him before he meets Sauron. Other things bring about defeat, such as if the Hornburg, an ancient and strategic tower, falls into Saruman's sticky mitts – not a popular conclusion.

**still graphics** 0 1 2 3 4 5

**moving graphics** 0 1 2 3 4 5

**soundtrack** 0 1 2 3 4 5

**lasting interest** 0 1 2 3 4 5

**overall 91%**

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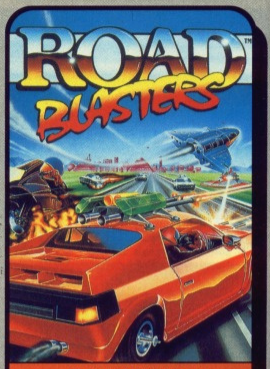


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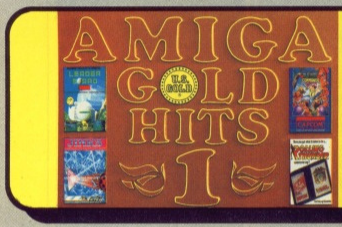


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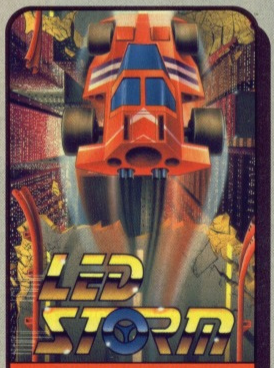


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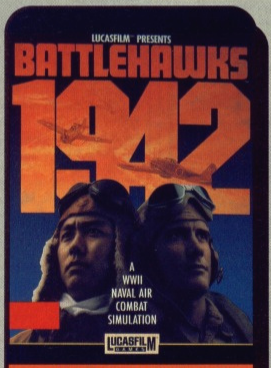


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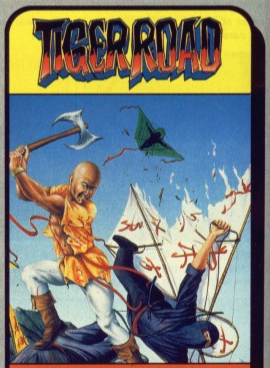


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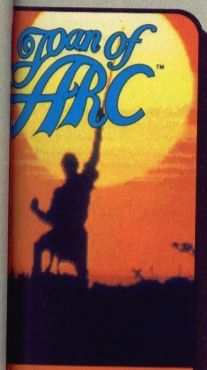


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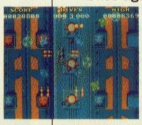
**...er's number 2!**

**Alright, who was it who said that after completing *SDI* the universe would be safe from alien attack forever? Not so, I'm afraid.**

**Once again you have to go out there and blast those old aliens into the darkened depths of your neighbourhood black hole, but with brilliant graphics the days of the vertically-scrolling shoot-em-up have taken on a new dimension.**



◀ *On line to meet the juggernaut. Hybris offers enough aliens to have you questioning the reason for your mission. But the great graphics ensure that this isn't just another vertical scrolling shoot-em-up.*

# HYBRIS

DISCOVERY/GAINSTAR (0252 877431)

**Amiga – £24.95. Mouse or Joystick. Reviewed.** **ST – No version yet available**

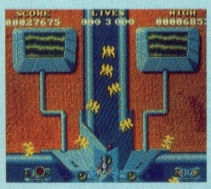
## GAMEPLAY

Who's the bloke who goes round moving your specs the moment you've put them down? And what about all those biros that you leave for the merest instant, and wop! – they've gone walkies. *Where to?*

Well – and you're going to find this one hard to believe – some idiot has gone and mislaid an entire colony of people. It's not as if they were particularly important people. A bit like Princess Alexandra – she looks good but nobody's entirely sure what she does and it wouldn't matter too much if she got lost down the plug hole one morning. However, it's suddenly become vitally important that you find this missing colony – they've probably been discovered to have avoided their poll tax registration, so the Government is going to spend half a million pounds trying to find them again, and you're the guy who's got to wander, bleary-eyed, into an alien and futuristic world.

With wave after wave of alien invaders looking like something out of Doctor Who dancing the pas-de-deux, it's pretty easy to forget about those missing guys and their tax bill. With your quest taking you across deserts, roads, mountains and seas and with one alien after another on your tail you can be sure that it isn't going to be a sightseeing trip.

When aliens rear their head they have a nasty tendency to split into loads of parts and hover around you menacingly. With a special firepower attachment you can ensure they don't get too big-headed. In the event that this contraption should get hit by an alien craft then you're all alone in the treacherous terrain. Only when a large grey box floats around the screen is there any hope – shooting at it releases another fire-attachment which you need to pick up to use.



◀ *With levels leading you through desert, mountain and seas, tackling the ugly yellow guys is the only way to survive.*

## GRAPHICS AND SOUND

Vertically-scrolling shoot-em-ups are so old now that you can almost spot the wrinkles. However, brilliant, smoothly-scrolled graphics and aliens so weird that you'll think you've just climbed into an extra's role in *Moonwalker* combine to make sure that *Hybris* is not just another outer-space shoot-the-thick-aliens-and-amass-an-Einstein-shattering-score type of game. With the action taking place over the top of everything from palm trees to a moving juggernaut you can soon find yourself addicted.

Sound effects are good as well. Throughout gameplay is a jazzy backing music as well as all sorts of spot effects which materialise every time you fire a missile. With an auto-firing joystick this can soon override anything else.

## CONCLUSION

Addictive gameplay has been the backbone of every shoot-em-up but this Amiga game has benefited from dedicated graphics and excellent sound effects. It might have been better if high-scores could have been saved to disk but this is no real problem if your only intention is to soar through the different levels. An initialisation routine can be accessed by pressing the space bar during loading. Here you can change parameters which will make the game easier – or harder if you have some sort of kamikaze instinct.

**still graphics** 0 1 2 3 4 5

**moving graphics** 0 1 2 3 4 5

**soundtrack** 0 1 2 3 4 5

**lasting interest** 0 1 2 3 4 5

**overall 82%**

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**..Not without your help!**

U.S. GOLD

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# GAME BUSTERS

TIPS

**If the odds are stacked against you and you're running out of fuel; if your shields are almost gone or you're on your last legs then there's only one cure: Gamebusters! More tips here than a milkman gets for his birthday.**

## FERNANDEZ MUST DIE

**ST**

To get infinite lives press P to pause the game and then type SPINYNORMAN followed by [Return]. If you run out of mines when you have infinite lives then just get shot because you'll be given another one as soon as the new life appears.

**S.M. Morris**
**Stratford-on-Avon,**
**Warwickshire**

## THUNDERBLADE

**ST and Amiga**

Wait until the game has finished loading, the high score table has come on and the digitised helicopter picture has appeared. Type in CRASH and the screen will flash to show that the cheat mode is active. All you have to do to skip levels is press [Help] on the Amiga or [Undo] on the ST.

**R Browne**
**Kingswood, Surrey**

## THRUST

**ST**

Switch on your computer and use another disk to get a Desktop and then insert the *Thrust* disk. Double click on the file CHEAT.PRG and the game will start as normal. Nothing can kill you except for the power plant when it explodes.

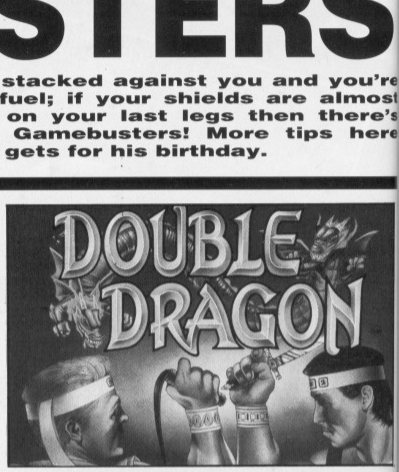
**Marcus Mansukhani**
**Ipswich**

## PLATOON

**ST**

If you want to access the cheat mode in *Platoon* then all you have to do is type HAMBURGER HILL on the title screen. While playing level one you can press F2 to travel instantly to the TNT, F3 takes you to the bridge and F4 to the village. The first casualty of war is cheating.

**Nathan Powell**
**Beckenham, Kent**



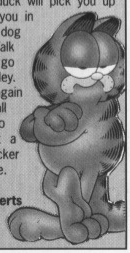

## GARFIELD

**Amiga**

From the start screen go left until you come to the front door with the cat flap. Pick up the red rubber bone and drop it next to the cat flap. Wait until Odie opens the cat flap and then move back to the start screen with the green chair and go through the door. Pick up the torch and go into the back yard. Enter the shed and fall down the hole. Walk right until you come to an alley and then go up it. Carry on right and down until you get to Nermal. You'll need to kick him repeatedly until he drops the mouse and then move Odie to pick up the mouse and leave the sewer.

You should then drop the mouse off at the health shop. A spinach donut will fall and you need to take this to the rat in the sewer. Drop him the donut and he'll stop. Then go to the chest, kick it and pick up the key. Take the key to the park and drop it next to the lady on the bench.

The next step is to fetch either the bucket from the garden or the spade from the shed and take it to the hardware store. By using it in the shop you can gain a one dollar bill which may be used to buy some bird seed from the health food shop. Take the bird seed to the park and drop it next to the key. Quickly lift up the key and stand still. The duck will pick you up and drop you in the dog pound. Walk right and go up the alley. Go right again and all that's left to do is get a big smacker from Arlene.



**Dave**
**Hitchin, Herts**

## CYBERNOID

**ST&Amiga**

Press space on the title screen, type in RAISTLIN (a character from the *Dungeons and Dragons* game and novels) and press space again. You now have infinite lives. To go the next level pause the game and press N.

**Nathan Powell**
**Beckenham, Kent**

## ELIMINATOR

**ST**

More passwords, this time for *Eliminator*. First press the [Help] key and then type in the appropriate password for a stage.

| Stage | Password |
|---|---|
| 2 | AMEOBA |
| 3 | BLOOOP |
| 4 | CHEEKI |
| 5 | DOINOK |
| 6 | ENIGMA |
| 7 | FLIPME |
| 8 | GEEGEE |
| 9 | HANDEL |
| 10 | ICICLE |
| 11 | JAMMIN |
| 12 | KIKONG |
| 13 | LAPDOG |
| 14 | MIKADO |

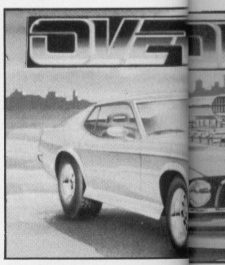
**Steven Rhodes**
**Kidderminster, Worcs**

## DOUBLE DRAGON

**Amiga**

On the title screen type in R U CALLING MY PINT A POFF? and press return. Pressing [DEL] kills your opponent.

**Martin Moore**
**Bristol**



## OPERATION WOLF

**ST & Amiga**

If you see any rocket launchers, grenade or knife throwers then pick them up first because they cause the most damage. If you see a hostage running across the screen then there'll be knife wielding man chasing him. Cut him down before he gets to the hostage or nasty things will happen. On the final level make sure that you've got plenty of ammunition and rockets when you get to the end because you'll certainly need them all. When you see the final helicopter just keep shooting it and fire rockets until it eventually explodes.

**Andrew Jackson and Carl Evans**
**Huyton, Liverpool**

## HELTER SKELTER

**ST**

Having trouble finding passwords. Look no further than this list.

| Level | Password |
|---|---|
| 11 | SPIN |
| 21 | FLIP |
| 31 | BALL |
| 41 | GOAL |
| 51 | LEFT |
| 61 | TWIN |
| 71 | PLAY |

**Jamie Wither**
**Chorley, Lancs**

## PUFFY'S SAGA

**ST**

Press [F5] and [F6] simultaneously during the game and you'll be advanced to level seven. Press [Undo] to go to level eight, press it again and you'll go to level nine.

**Y Tsang**
**Slough, Berkshire**

## NEBULUS

**ST & Amiga**

On the title screen of the ST version type `HELLO I AM JMP`. You can now change levels by pressing [F1] to [F8] for the respective levels and gain unlimited pogos to complete the tower. The same applies on the Amiga but type it without spaces.

**Michael Judge**
**Bakewell, Derbyshire**

## STARGOOSE

**ST**

Press all of the function keys from [F1] to [F6] and you'll have infinite shields.

**U. Childs**
**Watford, Herts**

## MICKEY MOUSE

**ST**

While playing the game type in `61315688` and a flickering line will appear in the border. You're now in cheat mode. Press [F2] to open the door to a sub-game, [F3] starts a fight between you and a witch and [F4] refuels your water pistol.

**U. Childs**
**Watford, Herts**

## INTERCEPTOR

**Amiga**

For extra missions type `2` for free flight and then before you choose which plane you want to fly type `6`, `7`, `8` or `9` and then the plane type. You'll now be far off the map and must find out what to do next.

**Andrew Harbottle**
**Newcastle-upon-Tyne**

## CARRIER COMMAND

**ST**

Start an action game and take over the island in front of you. Go west of the island until you're out of range and set Manta One's autopilot towards the centre of the island. Leave it armed and ready for launch. After 37 minutes you'll get a message that the island is under attack. Launch the Manta and you'll fly around the island. On one side will be the enemy carrier.

**Daniel Gemain**
**Newbury, Berks**

## OVERLANDER

**ST**

**Level 1**

Select counterfeit money and fuel up to 14 notches. Fit turbo, four battering rams and two flare bombs. Destroy trucks from as far away as possible. Slow down to 100-120 mph when you encounter barriers and stay in the middle lane.

**Level 2**

Select kidnapped official and half fill with fuel. Buy a leanburner, three rams and bullet proofing. After the first bikers there are a lot of barriers.

**Level 3**

Select Plutonium and fuel to half if you have a leanburner, otherwise fill the tank. Buy rams, bullet proofing, flare bombs and lives if you need them. The most difficult part is at the beginning, after that it's easy.

**Level 4**

Select illegal chemicals and fill the tank. Buy the maximum number of rams and bullet proofing. Also get as many lives as possible. Watch out for the barriers because they're everywhere and keep your speed down to 90-100 mph all of the time.

**Level 5**

Choose the president. Fill the tank yet again and buy everything except wheel blades. About £40,000 is needed to pick up this lot. This level shouldn't cause any headaches once your car has been fitted with the whole caboodle.

**Shariff Auliar**
**Devizes, Wiltshire**

## FISH!

**ST & Amiga**

The first three parts of *Fish* could be slowing you down so here are some tips to get you through to Hydropolis.

**Part 1**

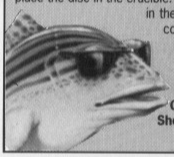
Tell Rod to make the coffee and then get the tapes from the bin, the tape bin can be found in the cupboard in the secondary control room. Set the amplifier fader in the the control room to a suitable level and clean the tape heads with the cleaner. Play the tapes in the player and the producer will storm in and sing the combination to the cabinet in his office. Get what you find inside it and you've solved the first part of *Fish*.

**Part 2 – The Abbey**

Get dressed and pick up the torch from the rubbish in the cab. Head east until you get to the abbey and find your way to the catacombs. Open the sarcophagus lid and find the ceremonial cord. Go back up to the ruined transepts and turn off your torch. Drag the pew past the hippier until it's beneath the arch; you can climb up this by standing on the pew. Tie the cord to the gargoyle and climb down again. You can pull the cord and collect the gargoyle. Put it in its rightful place. Get the grommet from the chalice to complete part 2. You may have to do this several times thanks the the hippier interference.

**Part 3 – Exploding Parrots**

Timing is critical in this part so don't waste anytime. Go south east to the smithy and free the budgie. Return to Mickey (mind the bird) and get the disc from the stump when he leaves. Return to the smithy and get the tools, gloves and mould. Wear the gloves and place the disc in the crucible. Hold it in the fire with tongs and pour it in the mould when it melts. Take this to the cool glade avoiding Mickey and anywhere wet. Let it cool for a few turns. When this is done smash the mould with the hammer and lo and behold HYDROPOLIS!



**Geoff Churn**
**Shenfield, Essex**

## WIZBALL

**Amiga**

If you're having problems getting the cauldrons filled then pause the game and type `RAINBOW`. Unpause the game and now you can press `C` to fill the cauldron for the level on which you're currently standing, `S` to complete the level and `T` to complete the whole game.

**Richard Thomson**
**Oswestry, Shropshire**

## WINNERS AND THINGS

**All over the country there are thousands of games players having problems and the only people that can help them is you. Send in your tips and hacks to these illustrious pages, it could be profitable. Why you ask? Because every month prizes are given for the best tips and hacks that float onto the doormat.**

**The winners this month are: DAVE for his Amiga *Garfield* tips and SHARIFF AULIAR for his extensive playing guide to *Overlander*. ST and Amiga prizes will soon be winging their way through the post.**

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PALACE SOFTWARE

Please check for availability of individual formats

**Okay road-hog, you're gonna need all your wits and lots of ankle grease to survive out there on the burning tarmac. It's a mean journey through four states, fightin' off them corrupt policemen and avoiding all the lamp posts. When *Crazy Cars* was released last year it gave the best of the racing games a drive for their money and *Crazy Cars II* looks set to do the same thing.**

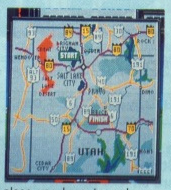
## GAMEPLAY

You're at the wheel of a Ferrari F40 in a race to smash a stolen car racket before the clock reaches zero and your car explodes – God knows who designed these Ferraris. Skoda, perhaps? This is no ordinary Arfur Daley scam, you've got the whole of a corrupt US cop force behind the racket and they're trailing you with the intention of turning you into chicken vindaloo with a side-order of burning rubber.

You have to survive through four states as you struggle to reach your destination, steering clear of every cop car in sight. Even the honest cops don't appreciate you racing across their state faster than an armadillo on a helter-skelter.

The task at hand is made marginally easier by using the latest James Bond-style radar which has been inconveniently sited at the top of the screen. Unfortunately, it's so difficult to read at times that you might just as well give it back to old 007 – he'll probably need it just to find his way around the retirement home.

A route map is available at the press of the F2 key and this lets you know the correct path to follow. With splitting roads appearing all over the place you have to make sure that you trail along the correct route otherwise you'll drive straight into a state boundary and explode.



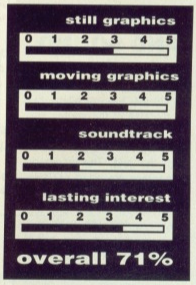

◀ *Surviving is easy if you know the way. The route map spans four different American states with the main highways looking dead ringers for the real-life US roads.*

# CRAZY CARS II

TITUS

**ST – Joystick, mouse or kbd. £19.95. Reviewed.** **Amiga – Imminent**

◀ *Why is it that you're the one who gets all the dirty jobs? Nobody said that smashing a stolen car racket would be easy but with half the US police force corrupt and after you things soon get impossible.*




## GRAPHICS AND SOUND

The graphics in *Crazy Cars II* are undeniably good with smooth scrolling and effective hills but it's the splitting roads which look the best. Your helicopter-angle rear view of the car succeeds in giving you a realistic impression of the road that benefits greatly from not looking like the usual makeshift Indian Elephant track joining A to B with a multitude of superfluous curves. Roadside sprites are fairly minimal although what is there has been well-drawn.

▲ *Due out in March, the Amiga version is graphically remarkably similar to its ST counterpart, as shown in this Amiga shot.*

Achievements in the sound department are not so great. The ST was never designed to sound like a Ferrari so the best it can manage is a 1958 Hillman Imp. The explosions of smoke and noise which appear every time you slam the brakes on should probably be cause for some concern, especially since the engine seems to cut out every time you try this not unreasonable manoeuvre.

## CONCLUSION

The racing game isn't the greatest innovation since the use of the armadillo for rugby practice, but fast-paced action keeps them addictive and *Crazy Cars II* has this. It would have benefited from a few additional sprites – real American highways aren't populated exclusively with cop cars.

A few more levels than the allotted four would have made the game better since the map gives a very clear indication of the correct route. It's almost too easy to succeed. However, it's an addictive game and only the imminent release of US Gold's *Outrun Europa* looks set to upset its chances at a top-ten slot.

REVIEW

# SWORD OF SODAN

GAINSTAR (0252 877431)

▲ *Blood-thirsty and brilliant*

| Amiga – Reviewed. Joystick. £24.95 | ST – No version yet planned. |
|---|---|

**It's been causing a sensation in the States, and now it's over here on import.**

**Massive sprites, smooth animation and lots of screams and grunts abound in this game from the master of Amiga demo programs, *Sodan*. Armed with the courage of Harrison Ford and only a humble sword you must get to the castle without being floored.**

◀ *By the time you get this far you'll need a rest. The final screen takes a lot of hard work to reach but a 'replay game' option can then be used to show all the moves you made.*

## GRAPHICS AND SOUND

It's the graphics which are the game's greatest asset. Backdrops are excellent but it's the size of the sprites hurtled around the screen which definitely sets this game aside from the rest. The on-screen characters are often as large as 5" which is a major improvement on the tiny ant-like characters with weird bodily malformations and bright red lips so often seen in the majority of street-fighting games. Wielding a giant sword and slicing offending characters into lots of pieces in true Ripper style is accompanied by brilliant splatters of blood, but it's being impaled on wooden spikes which looks best. This method of self-abuse crops up so often you'll think you're in Madam Cyn's private boudoir.

All manner of opportune grunts and groans make up the sound effects. The occasional burst of sampled speech impolitely informs you that you need to swipe at your enemies a bit more if you're going to defeat them but if you can survive this constructive criticism from your Amiga then you'll soon get involved in all the action.

## GAMEPLAY

In a distant age when dreams could become reality and miracles were an everyday occurrence, almost as common as plane crashes, there existed a King who lived for many years bringing hope and happiness to the land. But the people were awakened to a time of darkness when the King was slain by the evil Zoras. A warrior came to the territory and vowed, by the strength of steel and edge of sword, to shatter Zoras' reign of terror and hence return light to the Northern Kingdoms.

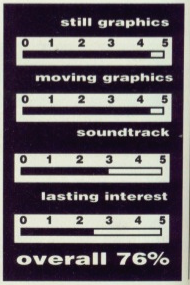
You assume the roles of either a male or female warrior and go into the Kingdom armed with the mighty Sword of Sodan, attacking Zoras' allies. Eleven different levels take you through a range of landscapes, beginning at the village where the aim is to get through two gates in one piece. The bridge scene is one of the better methods of seeking death. It boasts a set of moving spikes destined to draw blood from your leg, or even worse places. But it's the graveyard level which is the most impressive. With howling werewolves and lots of zombies wandering round eating the grass you'll think you're at a Liverpool football match.

Along the way you can retrieve potions which provide extra life or increased sword strength. And the extremely handy Magic Zapper isn't a hallucinogenic fungus but a useful device designed to kill the enemy closest to you, or act as a power shield protecting you from attack for 30 seconds.

▲ *Battling it out for domination of the graveyard – a healthy pastime if you can survive the smell of rotting flesh and lots of attention from a bald-headed coot.*

## CONCLUSION

Americans have raved about *Sodan* for some time and the graphics really are good. As a demo of the Amiga's clever sprite manipulation, it's indisputably superb but as a game it lacks the qualities to make it great. The levels lasts just a few seconds and whilst wielding a sword might make good screenshots it soon becomes tedious. Basically *Sodan* is a fighting game with large sprites and sampled speech; if you like plunging your sword into soft flesh and you can tolerate lengthy disk accesses then go for it.



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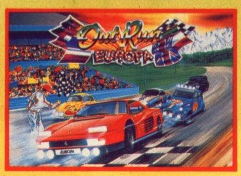


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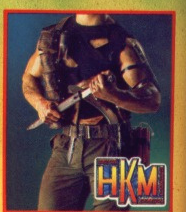


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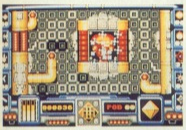
# CUSTODIAN

HEWSON

ST – £19.95 Joystick or Keyboard. Reviewed.

Amiga – Out at the beginning of March. £19.95

**This game's undergone more name changes than Elizabeth Taylor. Widely previewed under the guise of Kalashnikov, it became *Custodian* only a few weeks before the release date. It's written by the same company who turned out the amazing *Cybernoid*, and graphically it bears a remarkable similarity.**



▲ *Teleports allow you to rebuild your health at a cost of 1000 points. It might seem an extravagant price to pay for a visit to the doctor's but they also transport you around the level so they're not entirely useless.*

## GAMEPLAY

You've been assigned to protect the tomb of this weirdo who likes to spend a lonely day in front of the TV and doesn't enjoy being disturbed. With hundreds of aliens knocking at his door you just know what your job is. You must collect all of the alien pods located around the different levels and destroy them by carting them off to the pod annihilation chambers. You fascist.

The pods are an important element of the game. With up to 20 scattered randomly across the playing area they begin life as weak little things but gradually grow, absorbing the energy of the tomb. And guess what happens when the tomb runs out of energy? – lots of noise, millions of departing aliens and a giant implosion ensure that you don't survive for too much longer.

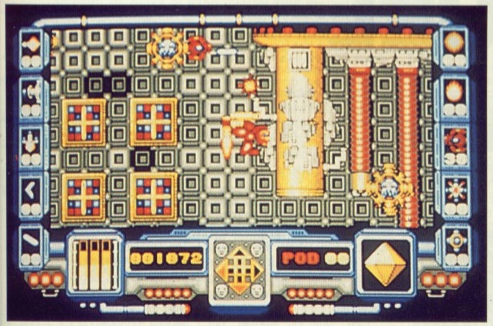
With hundreds of aliens around, all moving in different formations, you need to make sure you attack them with the right weaponry otherwise they'll hardly flicker their third earlobe. Up to ten weapons can be gathered by landing your craft in an ammo silo and pulling down on the joystick. This gets to be worse than landing a jet on the M1, when you're surrounded by millions of exploding shells.

Individual weapons have varying prices – your credits depend on how many aliens you've dispatched – and range from a simple cowboy style bullet (thoroughly useless and not worth the money) to a gem of a weapon which obliterates everything on screen with one blast, but costs more than Emperor Hirohito's funeral.

## GRAPHICS AND SOUND

A dark background with bright explosive effects, fireballs, and weird blue sparklers materialising all over the place is the order of the day. With a strange, jet-laden red character as your hero and all the impressive *Cybernoid* graphics, *Custodian* looks visually brilliant.

Sound effects are not so great. An option to have music playing throughout the game exists but it's not going to get you too excited. Thankfully it can be turned off leaving spot effects erupting with every explosion and providing an unwelcome indication of the number of lives you haven't got left.



◀ *The main objective is to protect the tomb without getting hit from the aliens but these guys don't make it easy. Luckily when the game begins you're armed with massive amounts of ejectable lasers and 1000 credits so your first stop is usually at the nearest ammo station.*

▲ *The range of weaponry is expensive but it does the trick. Getting your hands on an X15 Homing Missile is a great idea, especially when your trigger finger is a bit unreliable after a night on the tiles.*

## CONCLUSION

Extensive weaponry, a credit system and great graphics are what make this good. Unfortunately there's no high-score table to maintain your giant scores but this game is more about getting through the different levels. Occasionally the scrolling slows down so much you'll want to pick up your monitor and move it to the other side of the table just to remind yourself what movement is, but it's addictive enough to have your joystick pleading for repair.

Weaponry can be selected by hitting the function keys but taking your finger off of the joystick is not a task to be recommended. In no time at all you can find you've lost all your energy and vanished from the screen in a puff of smoke – a bit like travelling in a Boeing!

**still graphics** 0 1 2 3 4 5

**moving graphics** 0 1 2 3 4 5

**soundtrack** 0 1 2 3 4 5

**lasting interest** 0 1 2 3 4 5

**overall 73%**

# DREAM ZONE

GAINSTAR

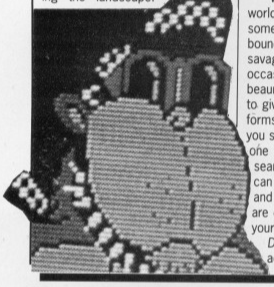
**Amiga – Reviewed. £24.95.**

**ST – Available soon.**

Everyone has nightmares at one time or another, but few people wake up to find themselves still in them. That's what you've done and if you don't find a way to escape you'll be stuck there forever.

Your messy bedroom provides the scene for the game.

Your first task is to wander around upstairs exploring the landscape.



This gives you the chance to locate objects useful later on in the adventure. When you're satisfied with what you've found then the next step is to go back to your room and sleep. The digitised black and white pictures which make up the waking part of the game are then replaced with less-impressive animated colour sequences.

Whilst you're in the colourful world of dreams you come across some strange things: simian bouncers, porcine informers and savage toilets. The gameplay occasionally features frustrating beauracracy obviously designed to give you a foretaste of poll tax forms. A trip to the DOI can find you spending all day shunted from one room to another in your search for an elusive form. This can become extremely annoying and more imaginitive problems are definitely needed to maintain your interest.

*Dream Zone* is a graphical adventure featuring digitised

UP
nobody
Bathroom+
South Vie
LOOK GET DROP TALK GIVE USE BUY HIT
You find yourself standing face to face
with what seemed to be a normal toilet
just a little while ago.

▲ *I'm not that desperate to go to the loo!*

pictures of your location. Objects are shown as small pictures but these are not digitised. The graphics are functional allowing you to click on portions of the picture and find out what they are; double clicking provides more detailed information.

### Interaction

There are two methods of interacting with the game: either via a row of icons consisting of the more commonly used options or by making use of a simple command line interpreter. Apart from the graphics it's a standard adventure with the usual interaction between characters and objects.

All in all it's not a bad game with some good graphics and even a tune, but the problems are just too annoying to keep you interested. Character interaction can be limiting with offending characters only assisting you if you first help them – no place for the wicked at heart.

**Gary Barrett.**

**still graphics 3.5**
**moving graphics 1.0**
**soundtrack 2.5**
**lasting interest 3.0**
**overall 65%**

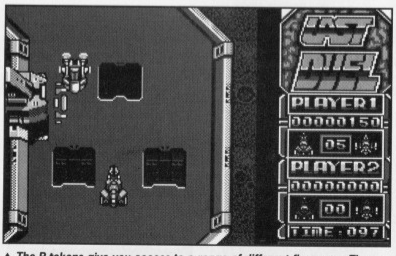
# LAST DUEL

US GOLD

**ST – Joystick. Reviewed. £19.95.**

**Amiga – Out at the beginning of March.**

Far off, in the middle of a Buck Rogeran future where there are more planets floating around in the skies than there are clouds of acid rain, there were two planets, born in the midsts of time. These planets were named – by someone with a doubtful understanding of the alphabet – MU and BACULA. Unfortunately the BACULA tribe have decided to take over the planet MU and have kidnapped the curiously-named Princess Fheeta for reasons which we shan't delve into too deeply.




▲ *The P tokens give you access to a range of different firepower. These can have you shooting missiles upwards, left, right or even all three.– Dirty Harry, eat your heart out.*

During odd-numbered levels you are in command of a custom designed, rocket-firing three-wheeled car, whilst the second player (if any) operates a similarly-equipped plane. In the other levels you take control of a hovering spacecraft.

*Last Duel* is spread out across six different levels which, in true *R-Type* fashion, incorporate some kind of fearless monster at the end. These range from large, fire-breathing dragons right down to a giant mechanical crab.

You can accumulate firepower during play by shooting at and then collecting the P icons. These occur fairly regularly and increase the number of missiles you can shoot out with one tap of the fire-button. Other icons also exist which allow you to fire all manner of multi-directional missiles, thereby increasing your chances of survival.

*Last Duel* is another release from Tiertex, the people who created *Thunderblade*. It's not in the same league but that doesn't stop it from being a fairly good release. The graphics aren't brilliant and it wouldn't win any prizes for innovative techniques but being a vertically scrolling shoot-em-up, it's the type of game that'll have you hooked for hours.

**Mark Higham.**

**still graphics 2.5**
**moving graphics 2.5**
**soundtrack 2.0**
**lasting interest 3.5**
**overall 63%**

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GRAPHICS

# THAT'S ALL FOLKS

**What do you do once you've drawn lots of pretty pictures? Why, you could bring them to life in good old Walt Disney tradition. And that's without even lifting a pencil. RICHARD MONTEIRO looks at the latest offering for would-be animators for the ST and Amiga.**

## CYBER PAINT 2

**£69.95, £14.95 upgrade from v1 ■ STs with 1Mbyte or more required, low res only ■ Electric Dist., Meadow Lane, ST Ives, Huntingdon, Cambs, PE17 4LG (0480 496789)**

Look here, ST owners, an animation-cum-paint package for your machine that will turn Amiga owners green. *Cyber Paint 2* is two programs rolled into one. It offers extensive drawing options found in many art packages and also animation facilities for creating your own computerised cartoons.

All conventional drawing operations are performed on a standard-size, low resolution screen. Logically, most of the painting functions can be found in the 'Draw' menu – from here you can draw lines, streak lines (similar to draw except the result looks rougher to give a sketched appearance), spray a random distribution of pixels, use an airbrush, fill, draw rubber lines, create polygons and other shapes, and write text.

Airbrush, although similar to the spray feature, lets you define the speed and the spread of your brush.

■ *A powerful feature in Cyber Paint lets you take a single image and manipulate it in many wonderful ways. For instance, you can make your images describe elaborate paths. These frames show just what is possible. You simply draw one picture and let the computer fill in the rest. Move-ment in any plane and anywhere on the screen is also possible.*

### Sooty and sweep

There is an array of 16 brushes for you to choose from when attempting most drawing functions. You can also define your own. It's possible to grab a section of screen (16 by 16 pixels) and use that as a brush. Unfortunately brushes can only be one colour, although you can of course copy blocks of the screen separately.

Shape drawing is incredibly fast; the speed is maintained no matter what size the shape. If you've got a blitter attached then things really shift.

The Modes menu allows you to make subtle changes on items drawn on the screen. For instance, shapes can either be filled or outlined, every item of the same type (box, say) can be separate or connected, and shapes can be forced to pass through a center point.

Only 16 colours can be on screen at once as the screen is always in low resolution mode. When you're tweeking the palette, you can select two colours, say light red and dark red, and have the computer calculate the shades in between – invaluable.

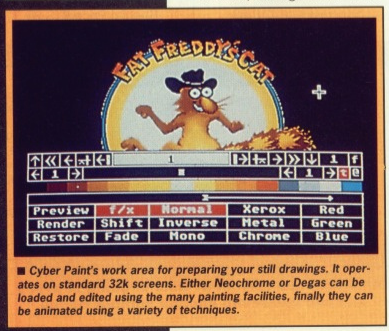
### Writing on the wall

Text can be written to screen using the standard system fonts or special GDOS fonts (six are provided). Text styles include outline, bold, italic and underline. Text size is measured in points (1/72 of an inch) and ranges from 1 point to 100 points. Point size is limited by the available font – system or customised. There is no need to load GDOS as Cyber Paint can handle custom fonts without it.

From the Clip menu you can cut, paste, move, rotate, stretch and invert blocks. By placing a cutout into the clipboard and then using paste it is possible to get a multi-coloured brush effect.

### Move it!

There are several ways of animating a picture. One of the simplest methods is something called blueing. (Blueing is a term taken offset printing, where the printer's camera won't pick up a particular shade of blue so it is used

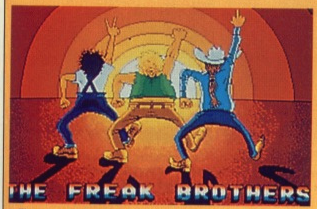



■ *Cyber Paint's work area for preparing your still drawings. It operates on standard 32k screens. Either Neochrome or Degas can be loaded and edited using the many painting facilities, finally they can be animated using a variety of techniques.*

### RAM UPGRADES

**Animations take up lots of memory – the more you have the more you can do. On 520s and 1040s you generally have to mess about with solder if you want to up the RAM population. Terrific Peripherals in the States sell a solderless RAM board (unpopulated) which can accept up to 2.5Mbytes of RAM for either the 520 or 1040. Information from: 7 St Mary's Court, Brookline, MA 02146, USA, (010 1 617 232-2317).**

## CYBER NEAT TRICKS




■ *The normal picture – courtesy of Marcus A. Thompson in West Lothian – before hitting it with Cyber's pixel permutations.*

■ *'Defocus' does just that. 'Antialias' does a similar job, but the results are more subtle.*

■ *Here's an interesting effect: 'Outline'. All these options can be carried out on one frame or all frames.*

■ *A sine wave can be applied to the screen by using 'Ripple', and just look at the results. Incredible.*

to mark outlines and others). This facility is used in *Cyber Paint* to show you the ghost of the previous frame so that you can draw the next frame slightly differently. This method isn't ideal for animating large objects as the jitter between frames is enormous.

Tweening got its name from the early days of animated cartoons. Typically a master animator would only draw the primary positions of a figure. For instance, Mickey Mouse with his arm outstretched, then bent at the elbow and finally with his arm pointing at the sky. An apprentice would then fill in the missing frames – the in-betweens or 'tweens'. The same function is available in *Cyber Paint*. When active, Tween takes the beginning and end positions of your cut or clip buffer contents and copies the movements sequentially across your frames. Once you've got used to the power of tweening, you won't want anything else. Tween works on rotations, pastes and stretches.

### Hunting wabbits

The most powerful animation feature found in Cyber Paint is 'ADO', Antic Digital Omni-mover, which lets you manipulate drawings in very sophisticated ways. You can enlarge or shrink portions of your animation and make your images describe elaborate movements and manoeuvres.

Imagine you have a single image somewhere on the screen. You can define how it turns – that is, in X, Y and Z axis – its size as it moves (whether it shrinks or expands), and the path your object takes. These facilities, which naturally remove a lot of hard work for you, can gobble up memory if you're not careful. Before you put you work onto cellulose, or rather frames, you can preview the object's flight. When you're satisfied, simply hit the 'render' button and *Cyber Paint* does the rest.

*Cyber Paint 2* is excellent. The drawing facilities are on a par with those offered by *Neochrome* – and they're much faster. Various zoom

## ALL THAT GLITTERS IS NEW

**For those contemplating upgrading from the earlier version of Cyber Paint, here's what has changed:**

■ **'Pixel f/x' in the Menu menu is possibly the most exciting addition. This lets you perform all sorts of strange pixel-based operations on individual frames or all frames in an animation. For instance, you can defocus or blur images, remove the jags from lines by using the antialias facility, apply sine and sawtooth waves over the screen, shift every other scan line one pixel in the opposite direction and turn solids into wire-frame outlines.**

■ **Each frame can now be assigned a different palette.**

■ **Two disks are provided: disk A contains the main program files while disk B houses tutorials, demos and GDOS fonts.**

■ **The 'range' function in the Palette menu works differently depending whether the RGB or HLS system is in use. Range averages colours between two selected colours.**

■ **The manual has been extended. You get 26 sheets which need to be slotted into various parts of the old manual.**

## CYBERPAINT 2

### for

- **Pixel effects are astounding**
- **Complex flight and motion paths for objects possible**
- **Shape drawing is very fast;**
- **Good manual**

### against

- **Low resolution only**
- **Sound can't be played along with animations**
- **Zoom only has one level of magnification**

**features**
0 1 2 3 4 5

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0 1 2 3 4 5

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## FILE FORMATS

***Cyber Paint* uses 10 different types of file format. Some are simple screen filetypes – for instance .NEO and .PI1 for loading Neochrome and Degas pictures respectively. Others – like .SEQ, .DLT and .STR – are available for loading or saving entire animations. Then there are filetypes that handle cutout information: .CEL and .BL. There's even a colour palette file which uses the .COL extension. Finally there's the .ADO filetype which holds the settings of the ADO f/x menu. Phew!**

magnifications, fancy line drawing (Bezier curves), intelligent fill options and any-shape cutouts are the only missing features worth mentioning. As for animation... the facilities offered are superb.

## PHOTON VIDEO CEL ANIMATOR

**£99.99 ■ 1 Mbyte Amigas, second drive and lots of Mbytes recommended ■ Gainstar, Unit 1, Rear of 7 Wellington Rd, Sandhurst, Surrey, GU17 8AW (0252 877431)**

Microllusions' latest addition to the Photon range provides you with facilities for replaying a series of pictures with sound accompaniment. It also has a few drawing options for good measure.

That may sound bland, but that's because it *is* bland. Several other packages are required to take full advantage of the *Cel Animator*'s features. For instance, an art package (it needn't specifically be *Photon Paint*) for creating a series of frames, a real-time video digitiser used for grabbing action sequences and a sound sampler for capturing sound. The list is never ending. *Cel Animator* certainly isn't a pick-up-and-go package.

### Roaming RAMs

Before you rush out to buy all that new equipment here's the bad news: you won't achieve much even on a one megabyte Amiga. Two megabytes will just about suffice for full-colour animation in low and medium resolution. Eight or nine megabytes are recommended for HAM-interlace or high resolution animation! Do they think RAMs roam around in fields or something? The price of populating an Amiga with eight Megs is roughly £2500 considering the current chip prices.

■ *There's no denying that these HAM interlace pictures are superb. They look even better when animated. You can't create these sort of images with the Cel Animator, but you are able to synchronise sampled sound in time with the animation.*

### Pick a screen

*Cel Animator* works from either the Workbench or the CLI. It's advantageous to load it from the CLI as you gain memory normally used by Workbench. The Format Screen presents itself and from here you must choose the graphics mode and number of colours to be used: low, medium, high, HAM, interlace, overscan and so on.

With memory-deficient 512K machines you'll find you can only use two or four colours for all but the smallest of animations. On a 1Mb machine you have room for about 12 frames in 32-colour low resolution. A more reasonable 71 frames is offered when the number of colours is two (one bitplane), again in low resolution.

'Order files' specify a sequence for playing back a series of loaded pictures. A list of all the pictures presents itself; afterwhich you have the option of altering the order.

### Pen and paper

The overall playback speed of your animation can be changed to 25, 12.5, 8.3, 6.3 or 5.0 frames per second. All are divisibles of the standard video playback rate of 25 frames per second. It is possible to specify the number of times a frame repeats – anything up to 999 times (40 seconds worth).

Creating an animation is simply a matter of loading screens into memory one after the other. You then have the option of synchronising particular syllables of sound files to certain frames. Once you've done that – and ensured the frame order and individual frame speed is correct – you can save an EXPosure sheet. This contains information on frames, frame speeds, sampled sounds and so on.

Naturally you can play an animation – either forwards or backwards. If you save a series of frames in mono then you can use a special pencil testing facility: 'ghosting'. As the animation proceeds the outline of the earlier frames will remain. This can be useful to track the course of action. Between five and ten previous images can appear as ghosts on screen.

Basic editing tools are available for cleaning up images. . There are also options for filling areas, cycling colours and scrolling the screen display in any direction when overscan is employed.

While there is a genuine use for stringing a bunch of files together to create an animation, there is no justifying *Cel Animator*. Everything it offers – which isn't much – could have been placed in one of *Photon Paint's* menus. Who's going to be able to use the package anyway? The amount of memory to requires is preposterous. As it stands *Cel Animator* is a power user's toy. And a poor one at that. ■

## SAVE TO TAPE

***Cel Animator*** **lets you send your video frames one by one to video tape via any 'popular' hardware frame by frame controller. These so-called 'popular' hardware devices like the Lyon Lamb Transport Controller cost several times more than an A2000 – and that includes a machine that has been expanded to 9Mbytes!**

**features** 0 1 2 3 4 5

**performance** 0 1 2 3 4 5

**ease of use** 0 1 2 3 4 5

**manuals** 0 1 2 3 4 5

**format value** 0 1 2 3 4 5

## VIDEOCEL

### for

- Supports virtually all display modes
- Sound samples can be synchronised to frames
- Easy to use

### against

- Memory requirements are absurd
- It's only a very expensive slide show program
- Other hardware and soft ware needed to create pic tures for use in animator

## CELS AND OBJECTS

**If you've read any of the myriad of recent reviews of animation packages in *Format* (like last month's *Sculpt 4D*), you may wonder what the differences between them all are.**

***Cyber Paint*** **and *Photon Videocel Animator*** **can both be loosely described a 'Cel' animators. This essentially means that all they do is to take a pre-prepared still image as designed using a paint package and then move it around the screen.**

**Although *Cyberpaint* offers you rotation around the Z axis, this is not a true 3D rotation – the program is simply looking at an amorphous mass of pixels and treating it accordingly. This is akin to looking at a photograph from sideways on.**

***Forms in Flight*** **and *Sculpt 3D/4D*, however, are much more complex. You don't import graphics from a standard paint package, you use an 'object editor' instead to define wire models of 3D shapes. Now when you rotate these images, the program maintains enough information to be capable of displaying the previously hidden pixels as it goes round. It is true 3D animation and, as such, is far more complex to prepare.**

**If Cel animation could be thought of as photography, then Object animation provides you with the magic of holography.**

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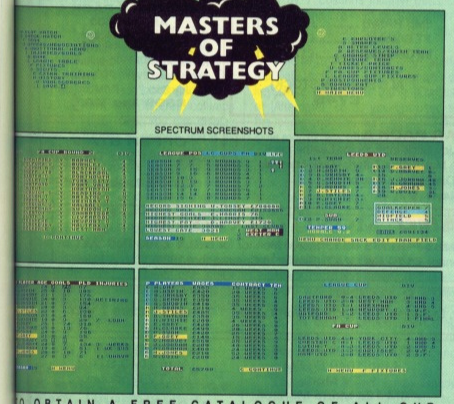

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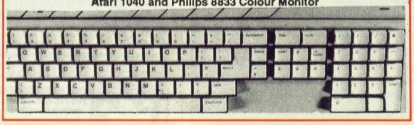

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# A TALE OF TWO SHEETS

REVIEW

**Once the poor relations of business life, spreadsheets have become more and more powerful of late. BEN TAYLOR weighs up two new high-end offerings.**

Once upon a time, long ago when Britain's balance of trade figures were actually in the black, spreadsheets were simple tools. Your computer (it would most likely have been an Apple II or Commodore PET) would show you a grid of cells, into which you could put numbers, and add them up in columns or rows. In short, an electronic scratchpad for doing sums.

Look at a spreadsheet today and you'd scarcely believe your eyes. The only thing that hasn't changed is that you still work with lettered columns and numbered rows. You can display tables of figures as graphs, use it as a database to search for particular data, write accounts programs... oh, and you can add up numbers as well.

The virtue of a spreadsheet is that once you've totted up the figures for your annual budget you can gasp and say, "My God, that's disastrous! What happens if I force July's figure down by 10%...", tweak one cell's contents and instantly that change is reflected in the totals. Great for 'what-if' financial planning.

## K-SPREAD 3

**£89.95 ■ All STs ■ Kuma, 12 Horseshoe Park, Pangbourne, Berks RG8 7JW (07357 4335)**

Kuma are one of the ST and Amiga's strongest supporters as a business machine, and they've got a wide range of K- branded products.

On running *K-Spread 3* you are faced with a window ruled, as you'd expect, into the traditional spreadsheet grid layout. However, the number of cells you can see is small (13 rows by 7 columns initially) because sundry icons are also on the screen: a trash can, a clipboard, a disk drive and others.

The large number of menus at the top all have a good range of keystroke equivalents using [Control] or [Alternate], so as you get used to the command structure you use the slow mouse less often.

Most spreadsheets allow you to point at the cell you want to edit and click the mouse – on *K-Spread* you have to hold down [Alternate] and click, otherwise it takes the click to be a range definition for copying. Ultimately you'll get used to it, but it seems a strange design.

Block copy and move commands are very well implemented. Drag the mouse over the range to be copied and it will be highlighted, then drag that range to the Clipboard icon or another cell – nice and simple with no nasty typing.

Calculation speed is pleasantly responsive, even on large spreadsheets, and one nice layout feature is the ability to alter the height of a row as well as the width of a column on the screen. If you're wanting to do heavy maths on a set of figures, *K-Spread* has a wide range of statistical and trigonometric functions, including metric conversion capabilities and matrix inversion. You can combine standard functions into your own user-defined ones.

A good range of 'database' commands let you store text in cells then

## WHAT SHOULD YOU EXPECT?

**When you're weighing up which spreadsheet to buy, look for some of these features:**

**SPEED:** You'll want to know that with a thousand figures floating around they can be crunched pretty fast. When you alter the value of a particular cell, a good spreadsheet will auto-recalculate the values of the rest of the sheet as fast as you can type.

**GRAPHS:** A picture is worth a thousand words. Present your monthly sales figures as a bar graph, and your reader will understand them instantly.

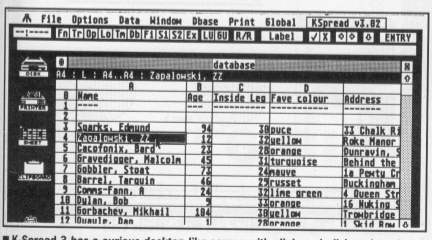
**DOUBLE RECALCULATION:** A necessary trick to ensure your spreadsheet data is self-consistent – see the separate illustration for details.

**CONDITIONS:** For example, the ability to set one cell to display the text 'Credit' or 'Debit' depending on whether the figure in another cell is positive or negative.

**SIDEWAYS PRINTING:** Even a simple spreadsheet can be far wider than a sheet of A4 paper. Good programs let you output sideways on continuous stationery for truly massive printouts.

**SEARCH:** On large sets of figures, a database-like Search command will let you find what you want fast.

**MACROS:** Macros allow the power user to define a complex series of keyboard commands as a single keystroke, eg. "Go one cell down, add one, go one cell right and multiply by 1.15." Almost a mini-programming language for customising your applications.




■ K-Spread 3 *has a curious desktop-like screen with clipboard, disk and trash icons as well as menus. This does reduce the usual work area to 13 rows – more would have been nice. On screen is an example of the database facilities at work.*

### K-SPREAD 3

**for**

- Width and height of cells can be adjusted
- Friendly mouse-driven block copy commands
- Good range of fast arithmetic functions
- Find/replace database facilities

**against**

- Must buy extra program for graphics output
- No macros in standard version
- No double recalculation

**features**
0 1 2 3 4 5

**performance**
0 1 2 3 4 5

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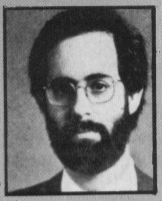
## THE FIRST SPREADSHEET



Spreadsheets are a relative newcomer to the computing scene – the first one was only devised in 1979, by Harvard Business School graduate Daniel Bricklin. It was called VisiCalc and ran on an Apple II computer.

count the number of people over five feet, or otherwise analyse the data. The ASKT function can ask the user to type some input, and a parser can then split that into your database storage cells. Sideways printing is also supported.

But despite a slick interface, there's a lot missing from *K-Spread*. There are no macros, no tutorials on disk, and if you want to get graphical output of your results you're expected to buy *K-Graph* at extra cost. Worse, the sheet is not double recalculated, so your data can become inconsistent. An add-on pack for £20 or so is promised for a couple of months time offering macros, improved sideways printing and a forms designer, but these ought to be standard features.

*K-Spread* is powerful and fast at its basic maths, but Kuma haven't given it enough extra bells and whistles.

## THE SPEED TRIALS

**To test out the raw number-crunching capacity of *K-Spread 3 Superplan* and various other spreadsheets we could get our hands on, here's the test we devised: put a number in cell A1, make A2 be A1 plus 1, then A3 be A2+1 and so on to A200=A199+1. Then cell B1=A200+1, B2=B1+1... and so on until there were 2000 cells, each worked out by adding one to its predecessor. Then when you alter the value of A1, how long does it take for the change to ripple through to J200?**

| *K-Spread 3* | *VIP Professional* | *Digicalc* | *GraphicSheet* | *SuperPlan* |
|---|---|---|---|---|
| ST | ST | ST | ST | Amiga |
| 5.8s | 10.1s | * | 5.4s | 10.2s |

*** *DigiCalc* didn't complete the calculation since it won't allow more than 9 linked cell references, rather less than the 2000 required.**

## SUPERPLAN

**£99 ■ Amiga, 1Mb required ■ Precision, 6 Park Terrace, Worcester Park, Surrey KT4 7BR (01-330 7166)**

Precision are probably the leading UK-based Amiga software house, best known for their *Superbase* databases. Their first spreadsheet, *Superplan*, is a souped up version of Grafox's *Logistix*, and Precision have eschewed the first-time user by insisting on 1 megabyte of memory – an increasingly common requirement for a serious Amiga user.

Before you can run *Superplan* you've got to plug a horrible copy protection dongle into your joystick port. Once going, you're faced with a screen split into a standard spreadsheet grid and a command area. *Superplan* betrays its origins by its non-WIMP command structure. For example, to load a file you type /L; rather than a standard requester box listing files on the disk appearing, you then have to type the file name. Very IBM PC.

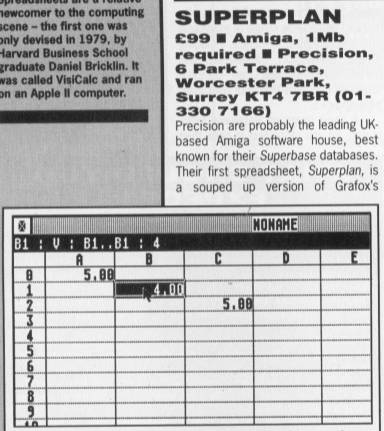
Let's take it as read that *Superplan* can do all the usuals as *K-Spread 3* – conditions, calculations, block copying and a search/replace database section... what does it offer that's new?

There's a wide range of graph functions, allowing you to present tables of data as bar, pie, line, scatter or cumulative charts. A complex macro language lets you write any function you need to and tie it to a command name or keystroke; a tutorial disk with the program uses macros to set up rolling demos. One unique feature is a set of project planning functions – you can set up a table of times for a sequence of jobs, then plot a critical path through them or generate a Gantt chart. Loads of statistical, mathematical and calendar commands give you just about everything you need, as long as you can remember their names. The number crunching isn't as fast as *K-Spread* on the ST.

Sideways printing and double recalculation are standard, but curiously you have to press '!' to force a manual recalculation of your data. (You can do it automatically too.) The Superplan manual is chunky and written as a reference rather than a tutorial – you'll need spreadsheet experience to get going.

The bad news is that *Superplan* is awkward to use because of its poor use of menus. Our review copy was a little fragile when it came to printing graphics and calculating forward references, but Precision assure us that the production version is robust enough even for Arnold Schwarzenegger.

*Superplan* should become the standard Amiga spreadsheet – it's got all the functions you could possibly want, but it still looks slightly rough at the edges currently. ■




■ *The Double Recalculation problem. When a spreadsheet works out its cells, it goes top left to bottom right. In this screen, cell C2 is B1+1, and AO is C2+1. Because AO is worked out before C2, when B1 is changed AO is set up using the wrong value of C2. Systems with double recalculation make two passes of the data to fill in these 'forward references' and make sure the data is correct. K-Spread 3 doesn't do this, so you've got to make sure your formulae don't refer to any cells below and to the right of the current one.*

### SUPERPLAN

**for**

- Wide range of graphics functions
- Lotus-style commands make Macros easy
- Calendar & critical path time planning functions
- Find/replace database facilities

**against**

- Needs 1Mb of RAM
- Poor use of menus makes difficult to use

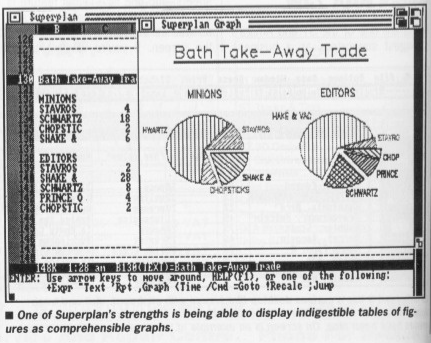
**features** 0 1 2 3 4 5

**performance** 0 1 2 3 4 5

**ease of use** 0 1 2 3 4 5

**manuals** 0 1 2 3 4 5

**format value** 0 1 2 3 4 5




■ *One of Superplan's strengths is being able to display indigestible tables of figures as comprehensible graphs.*

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# SAMPLING SEQUENCERS

**CHRIS JENKINS looks at two MIDI sequencing packages for the ST. One's possibly free while the other is like nothing you'll ever have seen.**

## DEALER DEAL

**Rival manufacturers who claim to have supported the ST in times when only the music applications kept it going are furious that Atari are spoiling their chance to sell sequencer packages to computer musicians. Afterall, a MIDI sequencer may well be a once-only purchase for many people.**

**1040's with free copies of *Twelve* are available only from dealers supplied b y Hugh Symons Distribution. The software package alone is available from most dealers at a cost of £129.**

## Steinberg Twelve ST

**£129 ■ All STs ■ Steinberg Research, c/o Evenlode Soundworks, The Studio, Church Street, Stonesfield, Oxford, OX7 2PS**

You wouldn't think it was possible to create a controversy by releasing a MIDI sequencer package for the ST; after all, it's been done many times before. But Steinberg's *Twelve* program has caused howls of protest from rival software manufacturers: it's being given away free with 1040 STs.

The first point to make is that *Twelve* is in many ways just a cut-down twelve-track version of *Pro-24*, which can claim to be the industry standard for software sequencers. And which costs £285 in its latest version (V3).

*Twelve* comes on a single disk, with a ring-bound manual in a slip-case. It runs on any ST in mono or colour, and uses GEM throughout. Its screen layout, with the File, Pattern, Track and other function menus at the top of the display, will be immediately familiar to *Pro-24* users.

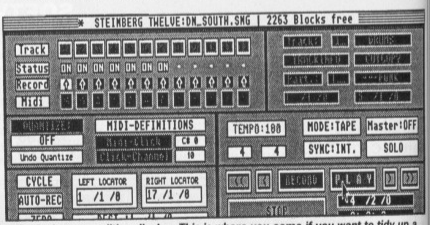
### Track record

At the top left are the twelve track buttons, each with a box showing its on/off status, whether recording mode is selected, and the MIDI channel on which its note date is being output. To the right is a track information box which shows the name and number of the track currently selected, the current pattern number and name, and the start and end points.

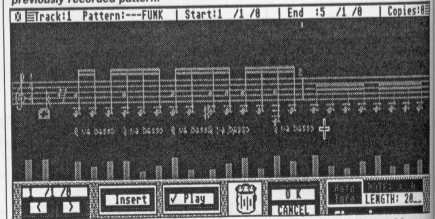
There are four other main boxes on the screen: one which shows the current tempo, timing and synchronisation internal/external option; a tape-transport style control panel with Record, Play, Fast Fwd/Rewind and position counter; a Quantisation display showing the note definition of the recording/playback process; and the locator, which allows you to set start and end points for a pattern.

Once recorded in real time or step time, patterns can be played solo or together, delayed, muted, transposed or copied. A series of 'VU meters' at the bottom of the screen jump to indicate the velocity level output of tracks as they play. Unwanted system-exclusive information such as pitch bends, aftertouch or pressure can be filtered out to save memory in the recording process.

*Twelve*, has no real surprises in store; it's a perfectly normal tape-recorder-style program which offers all the facilities you'd need to start off in MIDI sequencing. There are sophisticated options too. For instance, a score editing display which shows your note information on conventional music staves. From here you can edit out mistakes by entering new note lengths and values using the mouse.




■ *Twelve's score editing display. This is where you come if you want to tidy up a previously recorded pattern.*




■ *Steinberg Twelve's main screen on display. Up to 12 tracks can be used for sequencing notes from various instruments. It performs as good as it looks.*

## BIG BROTHER IS WATCHING

**Steinberg's *Pro-24*, the big brother of *Twelve*, was one of the first professional-standard MIDI sequencing packages for the ST. It's claimed to have sold 32,000 units, and is in use in all sorts of small and large studios throughout the world. Based on the idea of the computer as a 24-track digital tape recorder, it features many synchronisation, editing and manipulation options not available on *Twelve*. *Pro-24* has been revised several times and is now up to version 3. Files from *Twelve* can be loaded into *Pro-24*, and vice versa. It's also possible to load files from *Twelve* into *Master Score*, Steinberg's £325 music notation package.**

**features** 0 1 2 3 4 5

**performance** 0 1 2 3 4 5

**ease of use** 0 1 2 3 4 5

**manuals** 0 1 2 3 4 5

**format value** 0 1 2 3 4 5

### for

- Compatible with Pro-24
- Comes free with some 1040s
- Incorporates manuscript-style stave display

### against

- Only 12 tracks
- Individual approach to music sequencing
- File format not same as other sequencers

### Don't stop the dance

The Arrange Song function allows you to create entire compositions by organising the patterns in order; this doesn't stop you from recording a long solo which runs across several patterns.

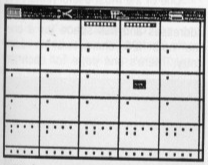
Perhaps the most disappointing aspect of *Twelve* is the manual. After all the criticisms levelled at the manuals of early versions of *Pro-24*, the V3 manual showed distinct improvements which promised to make other manufacturers look up and take notice. Unfortunately *Twelve*'s manual is nowhere near as good. It tries to be elementary, but ends up being patronising. There's no index and the tutorial has reams of control command sequences with no explanation as to what's going on. Not much help for the novice.

The final verdict, then, must be that *Twelve* is a good entry level sequencer if you are happy with the tape recorder analogy which has always been the major feature of Steinberg's sequencers. Personally I'd look at Hybrid Arts' *Easy Track* or Comus' *Studio 24* before spending money on *Twelve* – but if you're getting it free with a 1040, it's an offer which is hard to resist. ■

## MIDIGrid ST

**£134.05 ■ All STs ■ Composers' Desktop Project Ltd, 11 Kilburn Road, York, YO1 4DF (0904 623696)**

Now class, can you tell me the major disadvantage of MIDI sequencers for musical performances? That's right, they can't perform. All you can do is record your MIDI sequence, then sit and listen while the sequencer plays it back. There's no element of interaction while it plays; no possibility of improvising or rearranging the performance. MIDI sequencing is ideal for the studio, but hopeless for really creative live performances.



■ ***The performance display offered by MIDIGrid. Baffling to the beginner? You bet. Once you know what you can do, you won't want anything else. Clicking on the boxes causes notes to play from the synth.***

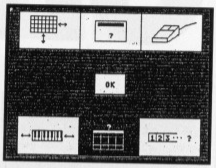
Now there's an alternative; a live performance sequencer which allows you to play the computer/MIDI system as if it were one semi-intelligent musical instrument. It's called *MIDIGrid*.

The program, which operates only in high resolution, comes with an excellent spiral-bound manual. The basic format of *MIDIGrid* is a grid of boxes on the screen. You play your synth by assigning notes, chords and sequences to each box, and use the mouse to 'play' boxes.

*MIDIGrid* uses a WIMP control system, but it's not exactly GEM. Some of the icons are enormous, you have to learn an unusual system of mouse-button clicks and the program uses strange sliding horizontal menus.

### Circles and squares

You can load predefined grid patterns and you'll find that moving the square cursor around the screen and clicking the left mouse button causes your MIDI synth to play single notes, chords, and even short sequences, depending on the number and pattern of black squares in the boxes.




■ ***MIDIGrid's options display. From here you can select the number of boxes in a grid, the keyboard range, where the mouse pointer boundary lies and the speed of sequence playback.***

A set of icons at the top of the screen let you to tailor the performance characteristics to your requirements. The first, a keyboard, allows you to place notes in the grid. Selecting it causes a keyboard to appear at the top of the screen. Up to 16 notes can be chosen and placed in a grid box. Boxes can be copied, deleted, exchanged, edited or moved. You could, for instance, set up a whole scale, a series of solo notes in different keys or a series of chords in a melodically pleasing sequence.

The next step is to select the required instrument sounds. This is done using a slider bar. Because different synths use different patch numbering systems, there would be little point in putting numbers on the bar. The idea is simply to move the cursor along the bar 'auditioning' different synth sounds you find the one you want.

### Hit it

You're now ready for a performance. Clicking the left mouse button on a box plays the appropriate note or chord. The notes play as long as the button is depressed, and even if you move to another box. If you press the right-hand button and move the cursor, rapid runs of notes emerge. In this way, you can hit a chord, play a quick run or a series of solo notes, hit the next chord, and so on. In the hands of a practised performer, the results are astonishing.

By clicking on the Record icon, you can record your performances and store them in box where they appear as lines rather than separate notes. Clicking on the box replays the sequence, and since you can have the same sequence replaying up to eight times simultaneously, you can build up stunning 'cannon' effects. Sequences can stop automatically when they reach their end, or you can set them to loop continuously. An entire setup – grid, notes, sequences and all – can be saved as a PAT file.

There are dozens of elements that can be altered within *MIDIGrid*, such as number of boxes in the grid, keyboard range, mouse pointer boundary and speed of playback.

There are two major problems with the *MIDIgrid*. The first is lack of any on-screen text labelling – this makes the program incredibly difficult to cope with until you have used it for some time. The second is that it's such a revolutionary concept that it really needs an experienced demonstrator to put the point across. If you're into MIDI, but frustrated by the limitations of ordinary sequencers, this could be your program. ■

### MULTI-TALENTED

**Because MIDIGrid lets you assign notes to any of eight MIDI channels, even combining notes from different channels in the same box if you require, it's ideal for use with multi-timbral synths such as the Roland MT32/D110, Yamaha DX11 or Kawai K1.**

### EINSTEIN A GO GO

***MIDIGrid* is a product of the Composers' Desktop Project, a very high-powered theoretical music research group more usually concerned with subjects such as Karplus-Strong plucked string algorithms, granular synthesis and exponential spectrum stretching. The Project also produces the CDP Workstation which includes the *SoundSTreamer* PCM digital sound convertor, Sony PCM digital sound recorder, hard disk unit and complex sound analysis and synthesis software. It's aimed at academic and educational institutions. The machine uses software such as *CMusic* and *CSound* ported across from VAX minicomputers, for which the programs were originally written. Fortunately *MIDIGrid* is straightforward enough to be understood by non-academics too.**

**for**

- **Unique live performance functions**
- **Software frees you from having to use music keyboard**
- **Ideal for use with keyboardless synth modules**

**against**

- **Initially difficult to understand**
- **Doesn't offer editing facilities of conventional sequencers**

**features**
0 1 2 3 4 5

**performance**
0 1 2 3 4 5

**ease of use**
0 1 2 3 4 5

**manuals**
0 1 2 3 4 5

**format value**
0 1 2 3 4 5

REVIEW

## FINDERS KEEPERS

**Don't assume that an organiser will improve your memory because it won't, but it does mean that you haven't got an excuse for forgetting a birthday or a dental appointment (two good reasons for not using one). If you ever find a filoFax lying around unattended then it's worth remembering that some people can't live without one, so be kind and return it to them and they might reward you. If they don't, then hold a match under it and they'll soon start searching through their pockets for a little gift (blackmail is such an ugly word).**

**If you have trouble remembering appointments, birthdays or even the day of the week then perhaps a personal organiser would be a valuable asset. In that case, GARY BARRETT certainly needs one.**

# GE
# ORGA

Since the dawn of time (well since yuppies crawled out of the primordial swamp) there have been filoFaxes. These magical tomes hold mystic runes and powerful enchantments (telephone numbers and addresses to most people) along with all sorts of other things including: a calendar, an underground map, a diary and a notepad.

The idea of the filoFax is that you could keep all of your vital information in one place so that it was always at your fingertips. Unfortunately there's a side effect: if you lose it then everything goes and you're up the proverbial creek without a paddle.

## DAATAFAX

**£49.95 ■ All STs ■ Kempston Data Ltd, 21 The Forum, Linford Wood, Milton Keynes MK14 6LY (0908 677886)**
**Extra paper ■ White £8.95 for 250 or £14.95 for 500 Also available in pastel blue and pink £9.95 for 250**

Open the box of the *DAATAfax* and what do you find? A disk, a manual and a handful of sheets of toilet roll. Strange thing to find with an organiser! No wait a minute, it is in fact some paper for printing out filoFax-compatible pages. There are also some page separators, made of equally flimsy stuff.

There are five sections to *DAATAfax*: notepad, diary, phonebook, calendar and graphics.

The notepad is used to write those important little messages and any text can be easily amended. If you want to find a particular word, 'bank' for example, then you can find all occurrences one by one. Printout from the Notepad section is in condensed text, so you get about 50 characters per line.

If you have trouble remembering meetings and the like then you might find the diary useful. Diary pages can be of three types: a page per week, two pages per week or a page per day. You can set the 'highlights' option, which means that any date you highlight in the diary will also be indicated by an asterisk on the calendar, a handy memory jogger for those more important activities. It's possible to jump to any date quickly.

One of the most useful features is the telephone book which also stores addresses and has space for a one-line note (20 characters) in each entry. There's one page for each letter of the alphabet, but extra ones are added as required. Searching through for a particular name is simple, but so is flicking through a paper address book.

■ **DaataFax's *diary – no excuse for missing an appointment with the dentist... unfortunately***

■ **DaataFax *can cope with pictures too.***

Next comes the calendar which is laid out over four pages, three months to the page, any year between A.D. 1 and 9998. Important diary dates can be highlighted for reference in the Diary.

Finally there's the graphics option which allows you to load *Neochrome*, *Degas* and *.IMG* files. These can all

## HORSES FOR COURSES

**So which of the two challengers, DaataFax or Day by Day, will help you organise your life the best?**

**Day by Day relies on the fact that you use your computer every day, and look at the reminders you have stored for yourself. DaataFax is more geared up to preparing data for storing in a ring binder, so you can carry it with you even when you go away for a week or so. Which system you prefer depends on your own pattern on computer use.**

**If you only use organiser type facilities rarely and you've got the ST Super Pack 'Org' organiser, then you might as well stick with that. If you just can't resist organisers then DaataFax is the most flexible option, giving you filoFax compatible printout as well as on-screen computerised searching – but unfortunately it isn't out on the Amiga yet.**

**features** 0 1 2 3 4 5

**performance** 0 1 2 3 4 5

**ease of use** 0 1 2 3 4 5

**manuals** 0 1 2 3 4 5

**format value** 0 1 2 3 4 5

## DAATAFAX

### for

- Simple to use
- Easy to edit text
- Can get a hard copy for your filoFax
- Graphics can be included
- Search facility in all sections

### against

- Paper will tear easily in a heavily thumbed filoFax
- Need an art package to create any pictures

REVIEW

# GET ORGA

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■ DaataFax's diary – no excuse for missing an appointment with the dentist... unfortunately

■ DaataFax can cope with pictures too

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features

performance

ease of use

### DAATAFAX

**for**

- Simple to use
- Easy to edit text
- Can get a hard copy for your filofax
- Graphics can be included
- Search facility in all

# ETTING ANISED

be printed out as filoFax pages. Now you can have a computer doodle stuck firmly in your organiser along with useful diagrams and maybe even digitised pictures of your mother.

The only thing left is the printer paper which is fanfold and can be loaded just like normal printer paper. An option on the pull down menu allows you to alter the left margin so that you don't have words disappearing down holes in the paper.

*DAATAfax* is simple to use and can be used either as a stand alone organiser or to make up some pages for your out of date filoFax. Printing out a year's diary will take some time and the paper is just normal printer paper thickness which makes it easy to crease or tear. It does have an advantage over the standard filoFax in that this one can be easily backed up and you're therefore immune to threats from yuppie kleptomaniacs.

■ ***Unlike DaataFax, Day by Day doesn't organise your events as a strict diary with equal sized slots per day. If there's nothing planned for a day, that date doesn't appear at all. Still, looks like there's a busy week ahead. Can't wait till Friday.***

■ ***Day by Day's main menu screen – either key presses or the mouse can be used.***

As soon as you start, you go straight into the 'urgent' section of the program which contains messages like "Feed the cat (to the dog)" that you want to see every time you load the program. After you've finished with this section you go into the main program where you're greeted by a menu screen.

*Day by Day* is more flexible than *Daatafax* in that you can create new categories rather than being stuck with a diary and telephone book. Up to nine categories can be created (including 'urgent'): bills, birthdays and telephone numbers for example. Clicking on a category takes you to a screen which shows all messages stored there.

The messages can be edited, but this is one area in which the program falls down badly; you can only edit by using the backwards delete key from the end of the message, and so if there's an error at the beginning of a line you have to delete all the way back to it and the then re-type the rest.

Also on the menu screen are two sections called 'overdue' and 'this week'. Overdue shows all the out of date things that you might have forgotten to do like returning library books, paying a bill or getting up in the morning. 'This week' shows all messages that are dated for the current week, a useful thing on Monday morning.

The week and month planner show engagements for the coming week and month respectively. You can also search through all of the categories for a particular word or phrase and any messages with it in will be displayed.

In the options section there's duration, range and time. If you switch the duration option on. then whenever you enter a message you'll be asked whether it will take the morning, afternoon or whole day. In some cases you'll want to specify a particular time when something is to happen. The range option can be very useful if you do something on a regular basis, going to the pub every Thursday for example. It saves typing in the same appointment repeatedly.

Like *DAATAfax* everything can be sent to the printer, but it's only done on normal paper rather than special paper designed for filoFaxes. 'Overdue' and 'this week' are two of the more useful features. You can also just get a print out of certain things rather than having to search through wads of paper looking for a particular reference. ■

## DAY BY DAY

**£29.95 ■ All Amigas and STs ■ Digita International, Black Horse House, Exmouth, Devon EX8 1JL (0395 270273)**

Inside the *Day by Day* box you won't find any filoFax printer paper, which you can interpret as either good or bad. Whereas *DaataFax* is intended to print out your memos and appointments for storing in an organiser, *Day by Day* is designed for you to use on a computer screen. The idea is that when you first turn on for the day you would use *Day by Day* to remind you of what's due, *instead* of looking in your filoFax.

## STANDARD IMAGES

**.IMG files were created to standardise ST picture file formats, but have not taken off as yet. Some DTP packages and newer Paint packs produce them: *Fleet Street* and *Timeworks*, *Flair Paint* and *HyperPaint* for example.**

## MY NAME IS ORG

**Anyone who's bought the 520ST 'Super Pack' of 20 games will also have the *ST Explorer Disk*, lurking on which is a program by the name of *Org*. *Org* is an ST organiser in the same vein as *Day by Day*, and has the expected features: a diary, a simple word processor, but also a simple spreadsheet.**

**Although *Org* is not as simple to use as *Daatafax* it's still no problem to work with. *Org*'s text editing facilities are poor and graphics can't be printed either.**

## DAY BY DAY

### for

- **Up to nine different categories to enter data**
- **A month and week planner to show you the shape of things to come**
- **Can search through all categories**
- **Standing orders – eg. weekly meetings – can easily be set up**

### against

- **Poor editing facilities**
- **Unsuitable for printing out a conventional diary**

**features** 0 1 2 3 4 5

**performance** 0 1 2 3 4 5

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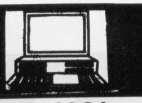

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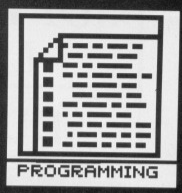



**BASIC is still one of the easiest ways to learn how to program your computer. When you haven't got one permanently sitting in your machine there are plenty of people willing to offer you new versions. GARY BARRETT syntax checks three recent BASIC additions to the Amiga.**

## GFA BASIC 3.0

**Microdeal £64.95 ■ All Amigas ■ Box 68, St Austell, Cornwall PL25 4YB (0726 68020)**

*GFA BASIC* has been around in various incarnations on the ST for two years now, but this is the first version to make its way onto the Amiga. Over 70,000 copies of it have been sold on the ST which is impressive for games, let alone programming languages.

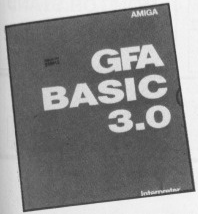
*GFA BASIC* comes in an A5 box with a 400 page plus manual and one disk. On the disk are two programs and some demos. One of the programs is the *GFA BASIC* interpreter and the other is a run only version of the program.

The *GFA BASIC* editor is split into two sections: the program itself and a menu bar. With the menu bar you can save/load, search and replace, modify blocks of program, scroll through the program and run it. Hard copies can also be sent to the printer and you can of course quit out of *GFA*. The rest of the screen shows your program listing.

### Tidying up after you

*GFA BASIC*, like *Amiga BASIC*, doesn't use line numbers, but uses labels instead which makes life simpler for the would be programmer who'll find it much easier to remember a word than a line number. Only single statement lines are allowed in *GFA*, but that helps you to see what's going on. Something else that *GFA* automatically does is convert all commands to upper case and all variables to lower case. After you type in a `FOR`, `WHILE` or `DO` command all subsequent lines are indented by two spaces automatically. Most programmers do this anyway so that they see what's going more easily, but the fact that *GFA BASIC* does it without question is a major bonus. If nothing else, any program written in *GFA* is going to look neat.

`GOSUB` in *GFA BASIC* calls up a procedure which can also pass parameters to the subroutine. This saves time and space since you don't have to assign variables before calling the procedure, it's done instead with a single command like `GOSUB prt(65,90)` instead of having to use `s=65:l=90:GOSUB prt`. Something else which makes *GFA* friendly is it's on screen compression procedures to make things clearer. All you have to do is move the cursor to the start of a procedure and press [Help]: the lines up to the next Return vanish in a puff of smoke. They can be made to reappear if you want.




### COMPILE OR INTERPRET?

**BASIC is a high level language, ie it's designed so that the user of the language can understand the program rather than the computer. What this means is that before the computer can execute your program it has be translated into something that the operating system can understand. There are two methods by which this can be achieved: interpretation and compilation.**

**Interpretation takes place as the program runs. As each line of the program is reached it's analysed by the computer and translated into code that the operating system can understand. This process takes time however, and therefore interpreted programs run slowly. Also, you can't run an interpreted program without the interpreter present in memory (see how far you get in Japan with no understanding of the language and no one to translate for you). Most computers with built in BASICs use interpreters.**

**When you compile a program all of the lines in it are translated into machine understandable code. This code can then be run independently of the compiler and you also get a marked increase in the speed at which the code is executed. The disadvantage of compiled code however is the need to compile it before you run it, which can often waste a lot of time – especially if you have a very large program.**

**The ideal situation is to have an interpreter for testing purposes and then when you've finished the program compile it for the extra speed and convenience of not having to have the interpreter there.**

### RUN ONLY

Since there is at the moment no compiler for *GFA BASIC* it might seem that you couldn't produce anything for anyone but yourself. This is not strictly true though, because of the run only version.

If you write a utility program or a game and someone else wanted to use it you'd be stuck unless you started to give away copies of *GFA BASIC* to people, and you'd be breaching copyright if you did that. To avoid this problem you're supplied with the run only version which can be given away freely with any programs that you write. There's no improvement of speed with the run only version, because the code is still interpreted, but at least you give the program to anyone that wants it without being sued for breach of copyright. Not the best of solutions, but it does solve the problem until the compiler arrives.

### GFA BASIC

**for**

- **Program lines' syntax checked as entered**
- **Uppercase variables and commands.**
- **Loop indentation for clarity**
- **Procedures listings can be condensed**
- **Can tell you when a new variable name has been entered**

**against**

- **No compiler at present**
- **Poor quality demos**

**features**
0 1 2 3 4 5

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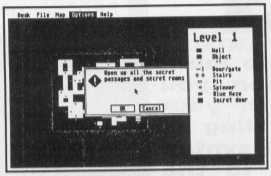


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 | Save |Save,A| Quit | New  |BlkSta|Replac| Pg ◊ |Normal|Direct| Run 02:15
 | Load |Merge |List |Block |BlkEnd| Find | Pg ◊ |Insert|ClkOn | Test
REM Demo program
CLS
GOSUB prt(65,90)
PRINT
GOSUB prt(97,122)
PRINT
END
PROCEDURE prt(s,l)
  FOR n=s TO l
    PRINT CHR$(n);
  NEXT n
RETURN
```

▲ GFA BASIC *procedure, now you see it...*

```
GFA-BASIC Editor
 | Save |Save,A| Quit | New  |BlkSta|Replac| Pg ◊ |Normal|Direct| Run 18:81
 | Load |Merge |List |Block |BlkEnd| Find | Pg ◊ |Insert|ClkOn | Test
REM Demo program
CLS
GOSUB prt(65,90)
PRINT
GOSUB prt(97,122)
PRINT
END
' PROCEDURE prt(s,l)
```

▲ *... and now you don't*

### How low can you go?

*GFA* has some unusual commands that are often just a quicker way to do something. For example if you want to increment a variable by one there are three ways to do it: `a=a+1`, `ADD a,1` and `INC a`. They're listed in order of increasing speed and although speed may seem unimportant in a business application, it could make that vital difference in a game. *GFA* has many other commands like this which allow for speed increases as well as commands to move blitter objects around easily – a task likely to make the games' programmer's life a lot easier.

One final thing that deserves mention is the 'New Names' option. When active you will be informed if you enter a new variable name. This is likely to help in trapping typing errors. How often have you mistyped a variable name and spent hours looking at a routine, trying to work out what's wrong only to discover you've typed `PALY` instead of `PLAY`?

*GFA BASIC* is a language for everyone: beginners should have few problems with it thanks to the manual and advanced programmers can do some spectacular things by using the lower-level instructions and delving into the operating system. Unfortunately, the lack of compiler does limit it to programs for your own use or for a handful of friends. This renders commercial applications an impossibility until Microdeal release the compiler.

## HISOFT BASIC

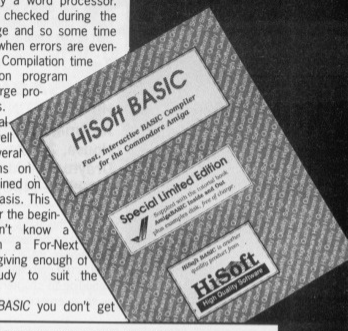
**Hisoft £79.95 ■ All Amigas ■ The Old School, Greenfield, Bedford MK45 5DE (0525 718181)**

One advantage that *Hisoft BASIC* has over *GFA* is the fact that it can compile standard *Amiga BASIC* programs too. This means that if you've spent six months writing something in *Amiga BASIC* you don't have to start from scratch: just load it into *Hisoft BASIC* and carry on from there. Rewrites can be done on some parts of your program to exploit the more powerful features that *Hisoft BASIC* offers.

*Hisoft BASIC* comes on two disks and includes a 350 page instruction manual. There are two programs on the disk (the editor and compiler) as well as several demos, including a paint program and a few bench mark programs to test out the new improved speed of your compiler. The editor is controlled via a pull down menu with options to save, load etc. and the program is entered into what's effectively a word processor. Syntax is only checked during the compilation stage and so some time can be wasted when errors are eventually detected. Compilation time is dependent on program size and very large programs take ages.

The manual has been very well laid out with several of the programs on disk being explained on a step by step basis. This makes it ideal for the beginner who doesn't know a Procedure from a For-Next loop whilst still giving enough of an in-depth study to suit the advanced users.

Unlike *GFA BASIC* you don't get




## SPOT THEDIFFERENCE

**Both of these programs look identical, the only differences being one quote mark in the first line and one in the last, but as you can see from the output each is very different.**

**Program 1**

```
?"Start"
FOR n=65 TO 90
PRINT CHR$(n);
NEXT n
PRINT
PRINT"Done"
```

**Program 2**

```
?"Start
FOR n=65 TO 90
PRINT CHR$(n);
NEXT n
PRINT
PRINT"Done
```

## BASIC DIFFERENCES

**If yo switch over to *GFA BASIC* from *Amiga BASIC* then you'll have to make some changes to your programs. *Amiga BASIC* programs could just be saved as ASCII and then MERGED into *GFA BASIC*, but the differences between the two would stop some programs from running. Here are three examples which vary between the two dialects:**

| *Amiga BASIC* | *GFA BASIC* |
|---|---|
| CIRCLE (x,y),r | CIRCLE x,y,r |
| PAINT (x,y) | FILL x,y |
| UCASE$(a$) | UPPER$(a$) |

**They're not major differences, but having to search through a long program and make all of the changes can be time consuming, time that could well be spent writing the program.**

## HISOFT

### for

- Simple to use text editor
- Can compile *Amiga BASIC* programs
- Some excellent demos
- Step by step explanation of how the example programs works

### against

- Compiling between each run of the program slows down development

**features** 0 1 2 3 4 5

**performance** 0 1 2 3 4 5

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automatic loop indentation or capitalisation of commands. If you want that sort of thing you'll have to do it yourself. Procedures are supported in the form of the 'CALL' command and parameters can be passed as with *GFA BASIC*.

One of the things which can be confusing is quote marks. If you don't close quotes after you've opened them then the compiler becomes confused and thinks that the all lines following until the next quote mark are part of the same statement.

## AC/BASIC

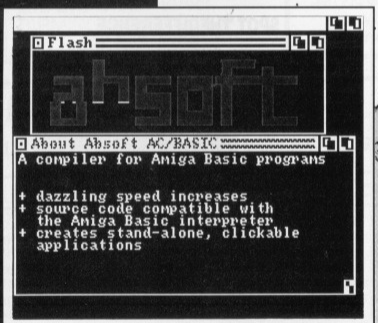
**HB MARKETING £195.00 ■ All Amigas ■ Brooklyn House, 22 The Green, West Drayton, Middx UB7 7PQ (0895 444433)**

Last on the list is *AC/BASIC* which is not an interpreter, but just a compiler for *Amiga BASIC*. Supplied on the disk is the compiler and folders corresponding to chapters in the 400 plus page reference manual. Like *Hisoft BASIC* the manual explains what each of the example programs on the disk does and this helps the beginner to get to grips with it.

As far as the menu screen goes you have three options: 'OPEN', 'PRINT' and 'QUIT'. Open asks you for a filename which should be the program that you need to compile from *AC/Basic*. That's all there is to it really. All program writing and testing is performed entirely using *Amiga BASIC* and *AC/BASIC* is called in only once you've finished the program.

*AC/BASIC* is not exactly what you'd call friendly when you eventually get around to compiling something. One of it's biggest problems is that you can't get a directory of the disk and so have to remember the filename that you wish to compile. If it's not in the root directory you have to specify the directory too. Not a very well-considered system despite the fact that it wouldn't have been too difficult to set it up so you could click on the file to compile rather than take a memory test.

Obviously *AC/BASIC* is compatible with *Amiga BASIC* (there'd no point otherwise) and it produces exceptionally fast code. The main problem with it (apart from the price) is the lack of editor and general unfriendliness of the system. ■


Flash
absoft
About Absoft AC/BASIC
A compiler for Amiga Basic programs
+ dazzling speed increases
+ source code compatible with the Amiga Basic interpreter
+ creates stand-alone, clickable applications

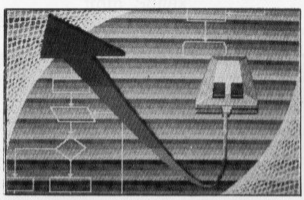
▲ AC/BASIC, *the 'HELLO' program running*

## BENCHMARKS

**A test to see just how fast the three BASICS are three simple benchmark tests were conducted. Amiga BASIC was included for comparison.**

**The first test was to duplicate a 40K file from ram disk to ram disk, second was a test to print the numbers 1 to 5000 and see how fast scrolling was handled and as the final test 25000 floating point calculations were done.**

| Program | Duplicate | Scroll | Calculate |
|---|---|---|---|
| GFA BASIC | 583 s | 189 s | 15 s |
| HISOFT BASIC | 224 s | 385 s | 9 s |
| AMIGA BASIC | 177 s | 976 s | 89 s |
| AC/BASIC | 159 s | 1002 s | 11 s |

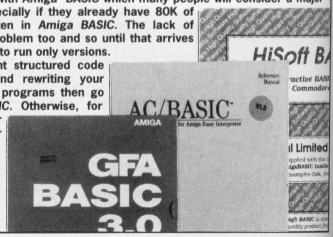


▲ ***AC/BASIC and Amiga BASIC shouldn't really be treated as seperate entities. You can't use AC/BASIC without the editing facilities of Amiga BASIC and the latter can't produce stand alone code.***

## JUDGMENT TIME

**Deciding which of the three BASICs comes out on top is no easy decision. Each of them has something in its favour and also something wrong with it. *AC/BASIC* is fast and compatible with *Amiga BASIC*, but the high cost and general unfriendliness don't help matters. *Hisoft BASIC* is also compatible with *Amiga BASIC* and has a very good editor, but the lack of interpreter is a definite disadvantage. *GFA BASIC* is very good at producing code that can be easily understood and looks clear on screen, but it's incompatible with *Amiga BASIC* which many people will consider a major problem, especially if they already have 80K of program written in *Amiga BASIC*. The lack of compiler is problem too and so until that arrives you're limited to run only versions.**

**If you want structured code and don't mind rewriting your *Amiga BASIC* programs then go for *GFA BASIC*. Otherwise, for adding sheer speed to your *Amiga BASIC* programs, *Hisoft BASIC* is an excellent choice.**




**features** 0 1 2 3 4 5

**performance** 0 1 2 3 4 5

**ease of use** 0 1 2 3 4 5

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**format value** 0 1 2 3 4 5

## AC/BASIC

### for

- *Amiga BASIC* compatible
- Produces very fast code

### against

- Have to remember the filename of the program that you want to compile and can't get a directory
- Expensive for what it is

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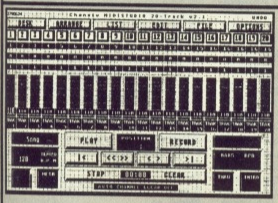


## Midistudio £99.99

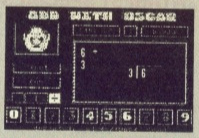
Midistudio is a 20 track Midi Music Studio. This Midi software package is a realistically priced introduction to Midi music processing and includes the following features.
20 tracks each assignable one of 16 midi channels, each track can be transposed up or down 2 octaves, the main screen features full tape deck controls with individual volume sliders for each track, note editing facilities including editing of pitch, octave, duration and velocity, plus full midi controller editing(pitch bend, mod wheel. etc.).
Full control over phrases is offered through Quantizing, transposing, and phrase arrangement software pages. The arrangement facilities allow moving and copying phrases on any of the 20 tracks.
The package is easy to use and is a strong competitor with Pro 24.

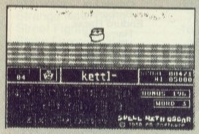
***" Out performs Pro-24 v2.1 in almost every way "***
***Atari ST User Jan 89***

## EDUCATIONAL SOFTWARE

### Add With Oscar £12.99

Add with Oscar is a fully mouse controlled educational game with full colour screens and sound for teaching addition, subtraction, multiplication and division to children. This program has selectable difficulty levels and a Hi-Score table.



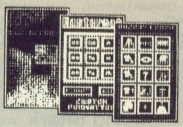

### Spell With Oscar £12.99

Spell with Oscar is a game which teaches spelling, keyboard skills and motor coordination. Pictures of objects move smoothly accross the screen and the pupil should spell the name of the object while Oscar checks for mistakes. Spell also incorporates selectable difficulty levels and a Hi-score table. **Extra data disks £5.99**

## TRILOGY £12.99

**Quick List Plus** is a utility that compiles a directory of your disks. Sort on disk or name, reads any drive, including hard drive. Printer output for hard copy of databases.

**Mastermat** is a formatter that optimises disk space, allows non standard sector and track formats/ fast read format.



**Picstrip** is a utility that captures all or part of a picture file for use in Basic programs, supports GFA, FAST, HISOFT and ST Basics and is Degas, Neochrome and AB Animator compatible.

## AB Animator £14.95

**AB Animator** is a utility for creating and animating sprites. It supports GFA, HISOFT and FAST basics and is compatible with degas and neochrome picture files.Use the full icon control to animate up to 20 big frames of 56 pixels wide by 33 pixels high.

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# BEDTOME

**The Amiga's a wonderous but complex beastie, as you'll find out if you try programming it. BEN TAYLOR surveys the latest clutch of techie books from prolific publisher Abacus.**

## WHERE FROM?

**Abacus books should be available in good bookshops – or they can order one for you if you quote the ISBN (International Standard Book Number). For direct sales, try: Precision Software (01-330 7166) or Computer Manuals Ltd (021-706 6000).**

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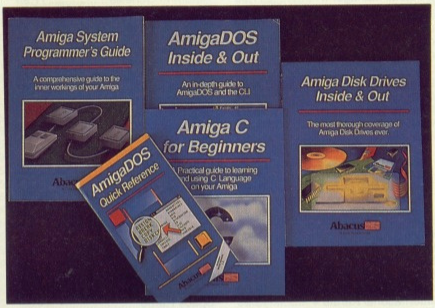
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Amiga C for Beginners
Practical guide to learning and using C Language on your Amiga
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## AMIGADOS INSIDE & OUT

**£18.45 ■ 272pp ■ ISBN 1-55755-041-7**

Learning AmigaDOS means learning the commands to be typed at the CLI (Command Line Interpreter) prompt. *AmigaDOS Inside & Out* starts gently with how to backup disks and name files. After that the expertise level ramps up rapidly – you get a blow-by-blow detailed description of every command from 'AddBuffers' to 'Why' in a rather terse jargon.

The mechanics of the Startup-sequence file that enables you to customise your Amiga's booting process is explained, and the good news is that new WorkBench 1.3 commands are included.

For programmers, there's a brief appendix on how to access command line parameters from C or Assembler, but there's no real information on bits and bytes behind the scenes.

The authors are German, and in typically Teutonic style there isn't much attempt to lighten things with humour – it's a bit stiff for the absolute beginner with no computer experience. So saying, this book should become *the* authority on AmigaDOS. It's comprehensive, accurate, more up to date and cheaper than the standard Bantam *AmigaDOS Manual*.

## AMIGADOS QUICK REFERENCE

**£13.95 ■ 114pp ■ ISBN 1-55755-049-2**

The title says it all really. If you've learned the CLI well enough that you don't need to be led through every new command step by step, this is the book for you. Every CLI command is listed alphabetically with a syntax for use, but not many friendly examples. Appendices list the ASCII table and Guru meditation error numbers (meaningless to anybody except machine code programmers!).

Inclusive of the Workbench 1.3 commands, this is a good but overpriced memory jogger.

## AMIGA C FOR BEGINNERS

**$19.95 ■ 275pp ■ ISBN 1-55755-045-X**

If you read Amiga magazines regularly, you'll have the impression that anybody who's anybody programs in C.

The 'beginners' in the title refers to newcomers to C, not to the Amiga. This is a C tutorial, not a guide to the Amiga for seasoned C programmers. If you're using Lattice or Aztec C, you're led through the Amiga commands for running programs. Editing text files with ED and how to correct common syntax errors are covered.

You get a rapid run through of all the C programming constructs, from printing 'Hello World' to user-defined data types all inside 200 pages. This is quite tight, and if you don't have a smattering of prior programming experience you may get lost. 30 pages at the end introduce System programming with a few examples of how to do Amiga-specifics like opening windows and accessing libraries.

There are better beginners' introductions available for the C language itself, but the pages on Amiga-specific programming make this book recommended reading for serious students of Amiga C.

## ASSEMBLER PROGRAMMERS ONLY!

### AMIGA DISK DRIVES INSIDE & OUT

**£27.95 ■ 345pp ■ ISBN 1-55755-042-5**

**How can you write a 350 page book on disk drives? I mean, you just put disks in and take 'em out again, don't you?**

**Well, not quite. The AmigaDOS CLI disk commands like ADDBUFFERS and DIR are quickly disposed of, after which this book is aimed firmly at the programmer who wants to know the complete sordid details of the disk operating system – files, tracks, sectors and all.**

**Long listings illustrate the superbly detailed information. Examples include reading disk directories within AmigaBASIC programs, and at the end on the book is a massive 4,000 line Assembler listing 'Deepcopy' which claims to copy any disk format.A brief chapter on viruses just refrains from listing a type-in DIY version – and the Byte Bandit virus, you'll be interested to know, "is elegantly programmed, buthas some errors.**

### AMIGA SYSTEM PROGRAMMER'S GUIDE

**£32.95 n 438pp n ISBN 1-55755-034-4**

**The official Amiga ROM Kernel manuals run to 5 volumes of small type. Apart from being incomprehensible, the total cost is over £100 – too much for a casual read.**

***Amiga System Programmer's Guide* attempts to give you the most important facts for a few brass Margarets less. A hardware description leads off, then examples of programming the graphics 'copper' and blitter chips. Writing multitasking programs using the 'Exec' libraries takes about 100 pages, with some handy tips like making programs reset-proof (but not crash-proof!). A description of disk formats and IFF files rounds up.**

**With a good index, this is an excellent introduction to serious hacking, and may let you stave off having to buy the expensive official manuals for a long time.**

# BARBARIAN·II

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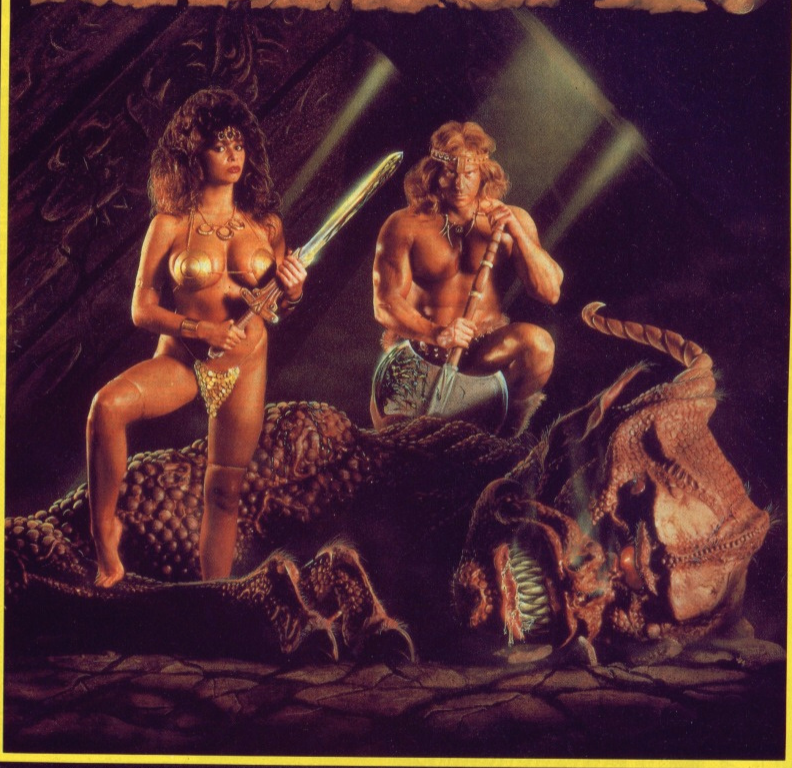

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# MINIX

**Who says you need a mini or mainframe to run Unix? It's now possible to execute a look alike of this monster OS on a 520ST – even on the single sided variety. RICHARD MONTEIRO ploughs through its nine disks.**

REVIEW

**£98.44 disks, £10.70 manual ■ All STs, 1Mbyte recommended ■ Department 35, Prentice-Hall, 66 Wood Lane End, Hemel Hempstead, Herts, HP2 4RG**

Unless you can get your hands on a super computer with a minimum of 5Mbytes of RAM and 80Mbytes storage, there's little chance of you coming into contact with the Unix operating system. You could wait for Atari's 030 Unix machine or even Commodore's Unix plug-in board. Don't hold your breath though as these machines are going to take their time coming and won't be cheap when they arrive. There is another alternative: *Minix*. If you want to find out what Unix is all about from the safety of your ST then Prentice-Hall's offering might be what you're looking for.

Like Unix, *Minix* has a hierarchical file support, full multi-tasking and a command line interpreter. The *Minix* system calls are identical to those of Unix V7. Furthermore, *Minix* comes with over 60 utilities and 100 library procedures all very similar to programs found in Unix. In short, you could easily believe that you were working under Unix.

### Inside and out

Internally *Minix* and Unix are very different. *Minix* doesn't contain a single line of the original AT&T source – so claim the authors. But apart from that there is little to distinguish the two.

*Minix*, its source, utilities and other bits and pieces take up nine disks. Yes, you read right! If your machine only has a single sided disk then the boot process is laborious as three disks must be shuffled before a prompt appears. Hard disk users are laughing as the whole lot can be transferred across.

In true Unix fashion you are asked to log in and then enter a password. After that a hash prompt appears. The usual Unix dollar prompt isn't used, presumably for copyright reasons. From the hash you can do most Unix-like things: running tasks, compiling source, C programming. But unless you have used Unix before – and know its CLI instructions backwards – you won't be able to do much. The manual is rubbish. It doesn't even list the commands present. Oh, there's a partial list on the back cover, but you aren't given any clue as to what cc, cp, dd, df, lpr, ls, pwd, mv, shar, od, etc, etc do. The manual simply provides you with information on booting the system, recompiling the *Minix* source, differences with *Minix ST* and *Minix PC* and troubleshooting.

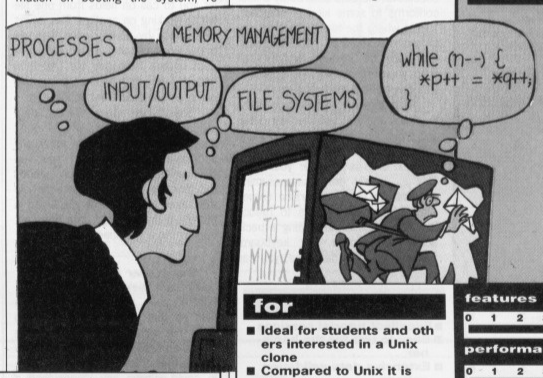
### Shake it

What about the system calls, the Kernighan and Ritchie compatible C compiler, the full screen editor the many utilities and library procedures that all form part of *Minix*? What are you supposed to do with them if there's no documentation? Buy a decent book on Unix of course!

If you shy away from command line interpreters and programming languages then *Minix* certainly isn't for you. Professors, students and others interested in legally obtaining and studying the source code of a Unix-like OS will be in heaven. Particularly those that enjoy hacking at home on a reasonably priced machine like the ST. Just make sure you have lots of literature on Unix before get *Minix*. ■

### WOT EUNUCHS?

**Unix is touted more and more as the operating system of the '90s. It's a huge OS requiring a minimum of 5Mbytes to breath and around 80Mbytes storage for its various system files. Unix is often found running on networked minis and mainframes as it offers multi-tasking and can support many users. The system uses a command line interpreter similar to the Amiga – it is often described as an over-complex techie-nerd operating system by those weaned on WIMP systems.**




### IN THE BEGINNING

**When AT&T first licensed Unix outside Bell Laboratories, it was quickly gobbled up by universities (not to mention industry). It wasn't long before a Professor at an Australian university wrote a book which provided comments for the OS's source code. The booklet plus the readily available Unix source made it possible for students to get hands-on experience working with, and modifying, a real operating system.**

**AT&T pulled the plug on education when Unix V7 was released; a contract, which remains in force today, was issued prohibiting the use of Unix source code in classrooms.**

**That's the reason for *Minix* – an OS that is system-call compatible with Unix and which doesn't have any licensing restrictions. There's also the advantage that *Minix* works on 512K machines and comes complete with commented source code.**

### for

- **Ideal for students and others interested in a Unix clone**
- **Compared to Unix it is very cheap**
- **Runs even on a single sided 520**

### against

- **Limited audience**
- **Compiling not always possible on 512K machines**
- **Knowledge of Unix required; manual doesn't even list utilities provided**

**features** 0 1 2 3 4 5

**performance** 0 1 2 3 4 5

**ease of use** 0 1 2 3 4 5

**manuals** 0 1 2 3 4 5

**format value** 0 1 2 3 4 5

REVIEW

# SUPERBASE PERSONAL 2

**When Precision released *Superbase Personal* they claimed they had found the ultimate design in user-friendly environments. Now *Superbase 2* looks set to provide an even better system. MARK HIGHAM finds out what it's all about.**

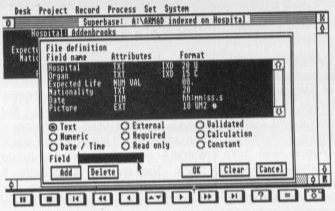
**£99.95 (Upgrade: £49.95) ■ ST & Amiga ■ Precision Software, 6 Park Terrace, Surrey, KT4 7JZ (01-330 7166)**

## PICTURE TRICKS

***Superbase* allows you to save picture files as part of your text so that you could set up a library of digitized or drawn pictures and recall them with certain fields. This can often be extremely useful. The new Amiga version applies these same features to IFF sound files offering mind-boggling possibilities. Unfortunately this feature is not available on the ST.**

*Superbase 2*, Precison's new entry-level package, offers a window-orientated relational database. A whole host of drop-down menus and simple field creation methods make setting up the database reasonably easy. With extensive tutorials included in the manual you can soon find yourself exploring the different commands which can be used to check that the data entered by a user conforms to some kind of standard. This is where the fun begins because a well-constructed database can eventually be so user-friendly that even your granny wouldn't object to sitting in front of the keyboard.

To create the system you name the fields and then specify their different types, ie. text or numeric and their lengths. Once you've done this, the next step is to enter your data. This is usually the time-consuming element but the new version comes with batch menu options to reduce the time you'll spend getting a backache poised over your keyboard. Being a relational database, you can recall data from other files.




▲ *The Superbase enviroment is based on a cassette-type operation with keys along the bottom letting you move through the records. Here, the different fields are being set up*

The benefits of relational databases are enormous when large amounts of data are being manipulated. They let you to call on fields from one file whilst working on another. This saves disk space by storing each fieldonly once. For instance, you could save cost figures from one file and then import them into another using this same data in a different application.

*Superbase* offers brilliant data validation techniques which don't allow the eventual user to enter any information outside of specified boundaries. The new version extends this theme by leeting you include help messages which can be displayed in the event that entered data does not conform to a specified pattern.

### So how does this affect an armadillo?

For example, you could arrange a field so that you would be able to enter the number of minutes that a typical armadillo could survive outside the *Format* offices. Since no armadillo could survive any longer than a quarter of an hour, if the user entered a value greater than fifteen minutes then *Superbase 2* could display a message saying that the armadillo was obviously insane.

The whole purpose of a database is to save information and recall it again, either as some kind of extensive address list or, more often, performing some kind of operation on numerical data. A query option is probably one of the most impressive features of a database. It allows you to search through a file and save to another file any of those entries which correspond to a required format. This file can then be treated as a separate entity and printed or viewed.

### What d'you want?

*Superbase* is a powerful and well-designed tool offering extensive database management. Such abilities usually go hand-in-hand with complexity but it's a relatively simple database as they go. The validation routines might seem complex at first but, as is true for much of the *Superbase* enviroment, you can quickly learn what you're supposed to be doing. One of the best features of this new version is its extensive error detection which allow you to define error notes to be displayed during use. ■

## SUPER SUPPLEMENTS

**In the months which have passed since the release of *Superbase 1*, Precision have made numerous improvements. These include:**

- **Validation is provided across mutiple files as well as more extensive validation routines including user-defined help messages.**
- **Batch files options to speed up the entry of data.**
- **Ability to search for external text files.**
- **Mail-merging facilities.**
- **Addition of new fields including the HH:MM:SS time field, automatic record numbering, multiple fields, inclusion of constants and read-only files to reduce the chances of accidentally erasing data.**
- **Compatibility with *Superbase 1*.**

**features** 0 1 2 3 4 5

**performance** 0 1 2 3 4 5

**ease of use** 0 1 2 3 4 5

**manuals** 0 1 2 3 4 5

**format value** 0 1 2 3 4 5

## for

- **Excellent tutorial sessions**
- **Easy to use for the beginner**
- **Extensive data validation options**
- **Can include graphics in data**

## against

- **Some Superbase 1 data files can't be read**
- **Validation command lines could be wider**

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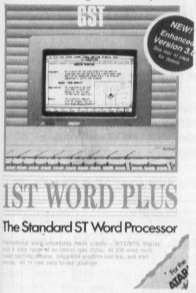
# DESKTOP

TIPS

**Computers are an overpowering bunch, difficult to master even at the best of times. Dawdle down to Desktop to learn how to tame the Atari beast. This month's winner is Neil Edney from Kent. His strident attempts will be rewarded with £30 – just as soon as our ST hands back the cash.**

## The problem with WPing

*First Word Plus* is not exactly the most well designed word processor. Like everything in life, it has its faults and foibles. For a start, files over 100K are known to cause your ST to completely scramble a disk during saving. This can be great fun if you're into sado masochism, but it's not good news for anyone used to dealing with large files. If you try to save a 60K file onto a disk with only 40K free space, even a RAM disk, the first 40K will be saved and the remainder will float off to that happy hunting ground in the sky. This would be excusable if the program told you of its intentions.




Another common difficulty which seems to occur, again when dealing with large files, is the dreaded drunken software fault. *First Word Plus* will suddenly slide in semi-consciousness and start reacting painfully slowly to every action. Menu bars will drop down at ridiculous speeds and key responses are almost non-existant. The first time it happens you think your ST has dozed off – not an encouraging thought after spending hours typing *The Life and Times of Arthur the Armadillo* into your wordprocessor. The only way to remedy this is to save the document, switch off and start again.

**K Pearson**
**Swansea, West Glamorgan**

## Packaging Patch

The packaging program used on the ST side of the cover disk can be persuaded to write the unpacked program away to disk by making use of a simple patch. Obviously this means that the file will be larger, but it has the advantage that you don't get the usual clutter on the screen whenever you boot. All you need do is change a single byte which can be done using Tinytool given away on cover disk 2.

Copy the file you wish unpacked from the cover disk to another disk. Select Tinytool.

## DISK FORMATS

**For several months now people have been bringing out increasingly complicated and unusual disk formats which are supposed to stretch the capabilities of your disk to the limit. These might not be particularly beneficial for owners of double-sided drives, but if your disks can only be buttered on one side they're a mind-boggling achievement.**

**An ordinary disk can be arranged to accomodate nine sectors per track. It's simple enough to modify this so that fewer sectors can be used. When pushed, the disk can handle up to 11 sectors. A good-quality drive should be able to use up to 86 tracks giving a dramatic rise in the available space. The drive works by starting at the edge and moving inwards; if it can't cope with the additional number of tracks then the drive will start to make all kinds of unhealthy noises. This is not uncommon since many drives on the market are only designed to accommodate a maximum of 82 tracks per side.**

**Another way of squeezing extra data onto a disk is to obliterate the boot sector. Removing this means you can't use the disk for booting, but you can still store and recall your files without any trouble. The directory on a disk can handle a maximum of 112 files, but this borders on the ridiculous. Seven sectors are set aside for this purpose; but there's no problem reducing this to just four sectors (64 file entries).**

**Some format programs provide fast disk reading. This works by formatting disks non-sequentially. Instead of placing sectors in the order 1, 2, 3, 4, 5, 6, 7, 8, 9 these format programs change the order to 1, 9, 2, 8, 3, 7 ,4 ,6, 5. The advantage being that when a drive has finished reading sector 1, the drive head is lined up to receive sector 2. On a standard format disk, sector 2 comes directly after 1. Unfortunately sector 2 appears too quickly for the drive head to read any information contained there – consequently the disk has to make a complete revolution to give the head enough time to pick anything up.**

**Another speed-saving feature is sacrificing the first sector on a disk by writing an error to it. This is useful because your ST will check the validity of the first sector, find that it cannot be used and move onto the second sector where it can immediately begin to read data instead of waiting for another turn of the drive.**

## OKAY, SO WHAT HAPPENS AFTER OPENING 40 FOLDERS?

**The ST is an intelligent machine. But it can hardly be blamed for making mistakes when some smart-alec has entered a problem into the system. The ST has an inherent disease that causes it to crash if it looks into more than 40 folders in one session.**

**To save it accessing the disk drive again and again, the ST will read the directory and store the contents of each new folder into memory. When you close a folder this information should be cleared, but an error in the OS means that the contents of an old directory aren't always cleared. Bits of the data will remain in memory, causing a mess. If you've ever examined the free memory in your machine after a heavy session, you'll notice that it reports very little free space even when there's nothing in memory. Other errors will start to materialise. This problem can be resolved by making a simple reset after any lengthy period of use, or when you've performed any extensive disk copying. Alternatively, avoid using more than 40 folders.**

Using the file editor, choose your program and then enter $58E <RETURN>. Tinytool will now display the contents of the file at this offset. Click on the '00' byte shown immediately after the address on the top line. Enter '01' and press RETURN. Click on write, reset and then close the window. The patch has now been made.

When the program is run it will put up the usual 'packed by' message and the screen will then flash in the normal way. However, instead of running the program it will ask if you really want to save the program. Click on Y and then type in a file name. The new, unpacked program will be saved onto disk. Don't try this with already unpacked programs though, since this will probably corrupt them.

**A Murphy**
**Lightwater, Surrey**

## Showing text files

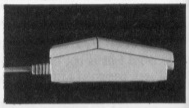
You don't necessarily have to load up a word processing program to view a text file. Assuming the file is pure ASCII, you can quite easily double click on the file as if it were a program. An alert box will appear containing options for exiting, sending the document to printer or displaying the document on screen. Click on the appropriate box for sending the file to screen. Pressing the space bar causes the information to scroll upwards a screenful at a time. Pressing [Return] forces the file to be scrolled just one line at a time. You can abort by hitting Q or [Control] C.

**W Richards**
**Worthing, West Sussex**

## Mouse movement

When you're sat at your keyboard waiting for a program to load, and you find that you've nothing better to do with your hands than wiggle the mouse backwards and forwards then stop! This can often cause all manner of problems during loading. Information on mouse movement is sent to the computer all the time, which explains why you can move the mouse pointer round the screen at any instance. Effectively the processor has to split its time between looking after the pointer and something else (like loading data). The result is that both tasks slow down. So keep that mouse still!

**C Tozer**
**Hessle, North Humberside**



# POINTING THE WAY FORWARD

**Printing text in various styles from something like *GFA BASIC* is no problem. But have you ever tried doing anything remotely clever from *ST BASIC?* Trying to get headlines scattered across your screen in more styles and point sizes than an armadillo after a jog across a razor blade is tough. However, by making the most of a few pokes the whole appearance of your screen can be altered.**

**Text size changes can be made with the following pokes. The variable *n* refers to the number of vertical and horizontal pixels that make up a character. The normal number is six. However, in high-resolution mode, standard size text can be accomplished using 13 pixels.**

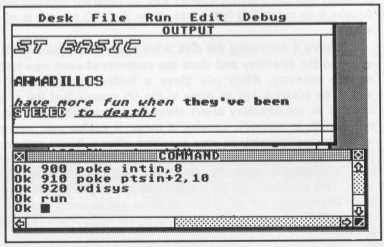
```
10 POKE CONTRL,12
20 POKE CONTRL+1,1
30 POKE CONTRL+6,0
40 POKE PTSIN,0
50 POKE PTSIN+2,n
60 VDISYS
```

**Text styles can be adjusted using these commands, where x is the style number in the range 0 to 31. Combinations of different styles can be achieved by adding values together.**

```
10 POKE CONTRL,106
20 POKE CONTRL+2,0
30 POKE CONTRL+6,1
40 POKE INTIN,x
50 VDISYS
```

**Following are the effects possible when the value x is changed:**

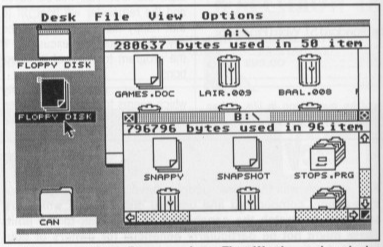
| | |
|---|---|
| **0=normal** | **1=bold** |
| **2=light** | **3=strike** |
| **4=italic** | **8=underline** |
| **16=outline** | |




# AND NOW FOR SOMETHING COMPLETELY DIFFERENT

**After a while the Desktop front screen can begin to look about as appealing as a strangled hernia. By making changes to the DESKTOP.INF file you can cause radical alterations to the appearance of your screen. It might not be entirely useful, but it's great fun.**

**Renaming the TRASH can is a fairly easy thing to do. By loading up a text editor – such as First Word – and replacing the TRASH label with another of your choice, you can immediately make an improvement. Other alterations can be far more impressive.**




**Examining the DESKTOP.INF file you will see these two lines:**

```
#M 00 00 00 FF A FLOPPY DISK@ @
#M 00 01 00 FF B FLOPPY DISK@ @
```

■ *This is the position of the icon on screen*

■ *This is the icon graphic; 00=disk icon, 01=folder, 02=trash, 03=programs, 04=data*

**Changing these values will cause different icons to appear on the screen. Below these two lines you'll find a further six lines which contain information relating to the display of the different icons. Changing this data can cause a program file to appear as a trash can, a disk icon or even a folder icon.**

```
#F FF 02 @*.*@
#D FF 04 @*.*@
#G 00 FF *.APP@ @
#G 00 FF *.PRG@ @
#F 00 04 *.TOS@ @
#P 00 04 *.TTP@ @
```

**Once you've finished changing the appearance of your screen, you can save the edits to disk. Rebooting will bring up your customised desktop.**

**Neil Edney**
**Kent**

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# WORK BENCH

TIPS

**Power-packed pages filled with all you need to know about your Amiga. Send us your tips and you could win £30, just like Christian Vogel of Stratford for his hints on playing sampled sounds from BASIC.**

### Digiview meets Neighbours

Have you ever wanted to use NewTek's *DigiView* digitiser to capture full colour pictures from your video recorder? Until now, the only way of doing this was to either fork out for an RGB splitter or put up with boring monochrome. However, there is a way of getting around this problem which will cost you absolutely nothing.

What you'll need is a video recorder capable of producing very steady paused frames. You'll also need a black and white video camera with tripod and an ordinary light bulb for use as a light source.

First, position the video camera just in front of your television where none of the edges can be seen. Next, position your light source above and slightly behind the camera. Finally, turn on your video recorder, locate the frame to be captured and freeze the picture ready for digitising.

It's easy to grab the image: use the red, green and blue filter wheel included with DigiView to take three shots of the screen. You'll find that the results are surprisingly good.

**Ralph Windsor**
**Rochester**

## SAMPLING BASIC

One annoying omission in AmigaBASIC is the lack of any in depth support for producing sounds. Particularly sampled sounds. You can produce the odd beep and whistle, but it would be nice to be able to play real sampled sounds Well matey, as it happens, the program below will allow you to do just that.

The program works by bypassing the usual, rather limited, BASIC sound routines and hitting the Amiga hardware directly. While this is a naughty thing to do with a multi-tasking machine such as the Amiga, the program seems to work fine without crashing the machine.

If you're using AmigaBASIC, the maximum size of a sample you can have is 10,500 bytes long. However, HiSoft BASIC owners can have samples of any length in memory with no problems at all. As a final note, samples must be saved in RAW format, that it, with no IFF information at all. If you try to play an IFF sample, the IFF headers will also be played! Here's the code:

```
OPEN "( A RAW Sound File )" FOR INPUT AS 1
Loader:
DIM Wave%(LOF(1))
FOR t = 1 to LOF(1)
de% = ASC(INPUT$(1,1))
Wave%(t) = de%
NEXT t
CLOSE 1
DMA:
lw = 14676118% 'Hardware Register
thi = 14676128& 'Address 4 Array
tlo = thi + 2
tlen = thi + 4 'Address 4 Array Length
per = thi + 6 'Address 4 Array Freq
vol = thi + 8 'Address 4 Array Volume
Freq = 300
POKEL thi, VARPTR( Wave%(1) )
POKEW tlen, LOF(1)
POKEW per, Freq 'Set Frequency.
'Experiment for best results
POKEW vol, 70 'Set Volume
POKEW lw, &H8201 'Now the Magic starts...
Finish:
INPUT "Press RETURN Key to STOP", a$
POKEW lw,1 'Stop sound playing
END
```

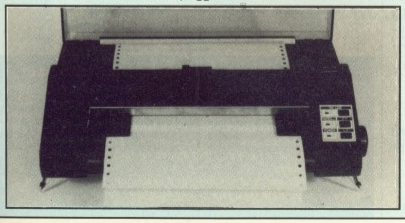
**Christian Vogel**
**Stratford-on-Avon**

## AMSTRAD PRINTER TRICKS

Have you upgraded from an Amstrad CPC to the Amiga and still have an Amstrad printer floating around? This handy tip will save yourself pounds by enabling you to use the Amstrad printer on your Amiga.

While the Amstrad DMP2000 is standard centronics and can therefore be plugged into the Amiga's parallel port, Amstrad, in their infinite wisdom, made the printer largely incompatible with any machine other than a CPC.

If you have Workbench 1.3, or any software package that has the new Workbench 1.3 printer drivers, you'll be pleased to know that your faithful DMP2000 can be called in for active service. To get things rolling, select the printer driver for the CBM MPS 1500 from preferences and save the new setting.



As an added extra, if you set dip switch DS2-3 to the ON position, you will be able to print graphic screen dumps directly to your printer.

**Simon Goodwin**
**Middlesbrough**

### Mighty mouse

Many would-be Amiga C programmers have probably given up hope after just five minutes of ploughing their way through the Commodore-Amiga official documentation, as it assumes a good deal of background knowledge and is a big step from the old Commodore 64.

For example, if you used the official method of detecting a mouse button click, you would have to go through a rather tedious and long winded process of having to open the input device, get input from it, reply to the message etc etc...

But if all you want to do is carry out a simple 'Click mouse button to continue' operation, the official method is too much hassle. Below is a quick and easy

(and illegal) way to detect if the right mouse button is depressed. It is written in C, but can just as easily be used in assembler.

```
/* Mouse Button Tester
Demo */
#include <exec/types.h>
main()
{
while (1) /* Infinite Loop
*/
{
if ( *((UBYTE
*)0xbfe001)&64)
printf("Button off!\n");
else
printf("Button on!\n");
}
}
/* End */
```

**J Chasey**
**Cheshunt, Herts**

### Take the scenic route

Remember *Scenery*, the fractal landscape generator featured on the issue 7 cover disk? Great program, but it doesn't provide a full PAL screen – just the limited American NTSC resolution. This means that your fractal world only inhabits three quarters of the screen, the other quarter is a rather dull shade of black!

However, if you've got a PAL resolution paint package such as *Deluxe Paint II* or *Deluxe PhotoLab*, there is a way of utilising this extra quarter of the screen. First, let *Scenery* do its stuff and then save the resulting screen to disk. Next, load the screen into a paint package, for this example we'll use Electronic Arts' *Deluxe Paint 2*. Now grab the entire screen as a brush, press J to swap screens and paste the brush down at the bottom of the screen. All that now remains is to fill in the top of the screen with a nice sky blue.

Things are even simpler if you have Electronic Arts' *Deluxe PhotoLab* as the program features a module to stretch NTSC pictures to full PAL screen resolution.

**Robin Bilson**
**Buxted, East Sussex**

### Free disks

By now regular purchasers of *Format* will have several cover disks. Most of the utilities are worth keeping, but the demos can be chucked after a while. A dozen or more utilities can be placed onto a single disk – the result is a lot of free disks.

The instructions published each month for transferring files to other disks work fine... up to a point. The programs run without a hitch, but you'll find that the documentation files cannot be opened. You need the file called MORE on your disk. This must be copied from the cover disk. It need only be done once; after that you can start copying as many programs as your disk will hold. Here's how: Initialise a blank disk and rename it to something like Utilities. Insert your Workbench disk and open a CLI window by double clicking on the system icon and then the CLI icon. Type:

```
copy df0:c/cd RAM:
copy df0:c/copy RAM:
copy df0:c/dir RAM:
path RAM:add
```

Remove the Workbench disk and insert a recent cover disk, type the following:

```
cd df0:
dir
```

Look for a file called MORE. This is the one you have to copy onto your Utilities disk. Ensure it's on the disk and type:

```
copy MORE to RAM:
cd RAM:
```

Remove the cover disk, insert your Utilities disk and enter:

```
copy MORE to df0:
```

That's it! Remove the disk and switch off. You can now transfer the utility files to the Utilities disk and, once you've done that, you can still read the documentation. But the big bonus is all those blank disks.

**Bradley Wells**
**Kesgrave, Ipswich**

## BEGINNER'S CORNER

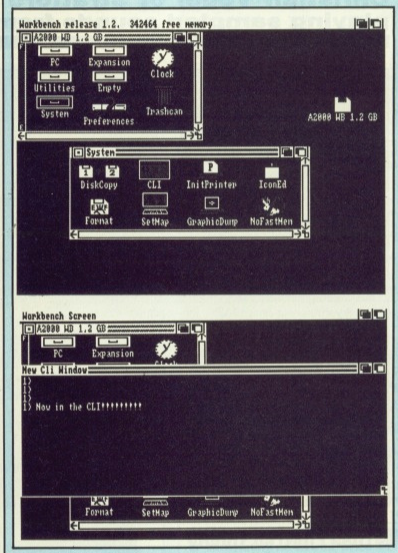
**By popular demand this month's Workbench sees the introduction of Beginner's corner. If you're completely confused, flummoxed or dumb-founded by all the jargon that Amiga-literates enjoy spouting, then this is the place be.**

**Each month we'll try and cover one particular area of the Amiga that causes confusion. This month we'll look at the Amiga's Command Line Interface (CLI) and how you can exploit this powerful facility for yourself. Just think, in a couple of months you too can pretend to know what you're talking about!**

### What is the CLI?

**Anyone used to using a machine such as a PC compatible will feel instantly at home with the CLI. In simple terms, the CLI is an alternative to the Amiga Workbench. Instead of clicking on icons and selecting options from menus, you type in commands to make the Amiga carry out particular tasks.**

**The CLI may seem barbaric compared to the Amiga's ultra-friendly WIMP system, but it's well worth getting your hands dirty to benefit from the extra power offered. There are many functions that can only be accessed through the CLI. How would you get the system to display a list of files created before 12:37 on the 21st December 1988 from Workbench? Answer: you can't.**




### How do I get at the CLI?

**To access the CLI, load Workbench and enter the System drawer on the Workbench disk. Locate within the System drawer an icon called, incredibly enough, CLI and double click on it. A window will pop up. You have now entered the mysterious world of the Amiga's CLI.**

### How does the CLI work?

**Most machines such as the Commodore 64 and the PC have some operating system commands built in. Examples are the LOAD, SAVE and LIST commands on the CBM64 or the DIR command on the PC. Because these instructions are built in, they are instantly available for your use. The Amiga, on the other hand, has no resident commands. And the commands available aren't commands at all, but programs stored on the Workbench disk.**

**Every time you enter a command at the CLI prompt, DIR say, the Amiga searches for a file on disk called DIR. Under normal circumstances the Amiga will look in the C directory (C for commands) for a program of that filename. If it finds the file, the program is loaded and executed.**

**In fact, this rather strange and often confusing method has the advantage that the DOS commands can be upgraded; infact you could even write your own DOS commands!**

**You've now successfully taken your first steps into the fascinating world of the command line interface. Next month we'll actually start using the CLI and the DOS commands on your Workbench. Stay tuned...**

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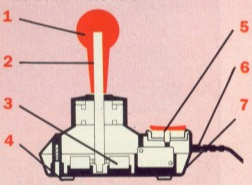


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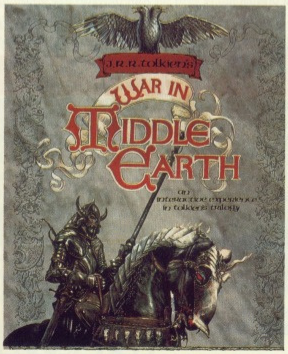


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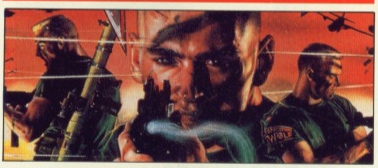

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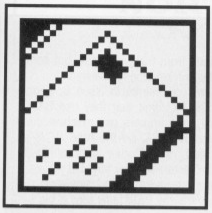

# FORMAT LETTERS

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## Getting your back up

I recently bought your December 1988 issue of *ST Amiga Format* and thought, 'Great, another disk full of great programs.' I was particularly interested in the *Format 11* high capacity disk formatter. I was always sick of my disks running out of space just when I needed them, so I used it to re-format all my disks. I copied the programs onto one disk, formatted another then copied them back. I was so pleased at the extra room. I did not use any programs on those disks until yesterday. I tried to run BASIC and found it would not work, then I examined my programs. As it turns out, something has re-arranged them all and joined them together. I used to think your magazine was great, but now I am not so sure. I had three quarters of a computer project for my GCSE Computer Studies on those disks. It is all lost thanks to one program. Now I have a useless BASIC program and a computer project that is now merged with a program which plays music.

**David Stevens**
**Bude**

■ *Some disk drives will have difficulties meeting the demands that* Format 11 *makes to gain the extra space, and it looks as though you've been unlucky. Sorry for the problems you've had, but you've learned one lesson the hard way – always, always keep back-up copies of anything important.*

## Legal eagle

prize letter

I would like to give your readers a warning about returning faulty software. I purchased a game from a computer store which turned out to be faulty. When I returned the game to the shop they exchanged it after testing to make sure that it was faulty. When I tried the new game this was faulty as well, as they had no more in stock I assumed I would receive a full cash refund (to purchase the game elsewhere) but no, I was then informed that because of copyright laws regarding computer software, they could not give cash refunds on faulty goods (they would change the game for another of the same price, but there was nothing worth buying). When I told them that other stores give refunds for faulty software I was told that if I wanted to buy software from other stores then I was welcome to do so. When I asked why customers were not told this when purchased software I was told, "If you ask us we will tell you". I think this to be unreasonable. If there is a copyright law regarding refunds on software, stores should have a notice informing customers of this and not wait until goods are returned to be informed, then at least customers can see for themselves which stores offer good after sales service and don't use a copyright law (which I think does not apply to faulty software) to hide behind to avoid giving refunds. As for the game, I had to wait a few days until new stock arrived in the shop.

**R M Gibbons**
**London**

■ *Stand up for your rights! Now, we've got in trouble before for voicing an uninformed opinion on consumer law, but as the fearless champions of truth, justice, liberty and crumbly candy bars, here goes again:*

*If you are sold a product which doesn't work right from the start, you are entitled by law to either a replacement or a cash refund – you choose which, not the shop, and you are entitled to a proper refund rather than a credit note for later use in the same shop.*

*If you buy a product which works at first but goes wrong later on, within the guarantee period, the shop can offer you replacement, repair or refund at their discretion. You can't argue with their choice.*

*If you buy a product which you later decide you don't want, that's tough. The shop may take it back and give you a credit note if they feel nice, but that's up the them.*

*When it comes to software, just like music tapes and records, shops are frightened of people buying one, taking it home and copying it, then bringing it back to say it is 'faulty' for a refund. That's the copyright angle that your shop quoted to you, and if they have any choice in the matter dealers won't usually swap one game for another for that reason (although in your case you were offered precisely this solution). However, this doesn't affect your statutory right to a cash refund on demonstrably faulty goods, and from your description you were entitled to one. Next time just stand in the shop and talk loudly about your good friend the local trading standards officer...*

## Black trouble

I have a small question on your Mono Emulator program printed in issue 2. I have the new TOS 1.09 system and although the Mono Invaders, which was printed in issue 1 runs perfectly, your program in issue 6 called *Diamond*, which is also on mono, and your program in issue 7 called *HiSTart*, a high resolution print program, do not.

**Jeffrey Tyler**
**Eltham**

■ *Unfortunately* Diamond *and* HiStart *just don't work under issue 2's mono emulator, despite a suggestion to the contrary in the disk pages.*

## Getting into business

I am interested in setting up my own business. However, I lack certain knowledge concerning the lists of some computer software warehouses.

I have been developing some software for my ST computer which I think I could sell commercially, but I need some extra income through selling commercial software from software houses/warehouses etc. Can you put me on the straight and narrow path? Is it a good idea to sell software for extra income?

**Nigel Balcarres**
**London**

■ *You best bet for contacts is to try to subscribe to a magazine called* Computer Trade Weekly, *which carries adverts for distributors and lists of software houses. Ring 0438 310106 for details.*

*To be honest, selling your own software is dangerous – there's no-one to cast a critical eye over it and suggest improvements. You'd be better advised to offer it to a recognised publisher to deal with, and take royalty payments as an author.*

*As for selling software, many mail order houses make a good living out of it as you can see from the adverts. However, you'll need a friendly bank manager to give you enough cash to buy your initial stock.*

*Good luck!*

## 'Ello, 'ello, 'ello

I have a few questions that I would like to ask you, and no I'm not a policeman but one of your devoted readers.

1. Why is it that most of your readers put numbers in front of their questions?
2. In issue 7, one of your readers wanted to know what is the price for back issues. Your answer to his question was not very helpful, well not helpful to me anyway. What *is* the price?
3. On the subject of Emulators, at work I use the Macintosh II which I find leaves all the others standing. It works at such a speed. Hold onto your hats – it's a Turbo XR3i. The Atari ST has a Mac Emulator and does it very well. Now, is there an Emulator available for the Amiga 500 to Emulate the Superb Macintosh II? If not, there ought to be!

Your magazine is great. You're up to date with the latest and the cover disk is a bonus for us Amiga owners who had to get a mortgage to buy their computer. Oh well... I don't have an Amiga yet, but I hope to be in the possession of one before the end of January, or my name is not Slartibartfast.

**Anderson Sawney**
**London**

■ *1. Get on with the questions.*
*2. Back issues are cover price plus 25p post and packing, ie. £2.75 for issues 1, 2 and 3, and £3.20 for the rest.*
*3. There is a rumoured Amiga Mac emulator under development, MAX from ReadySoft, the company responsible for* Dragon's Lair. *It looks to be a good six months away yet, and you'll probably need 1MB of memory to do anything useful, so an A500 won't be much good.*

## HiService

I bought a copy of Hisoft's *Power BASIC* at a big computer show. It was quite cheap, about £18. I didn't have a look in the manual until some days ago when I found out that several appendices were missing. I phoned HiSoft about this problem and they told me that they would send me the missing appendices and the newest version of the program as well without any cost! With this kind of service pirating is just not worth it, especially concerning the more serious (and expensive) programs. I just wanted to let the people know that HiSoft is great!

**Jay Lee**
**The Netherlands**

## Hidden secrets

I am a newcomer to the Amiga 500, and while looking around my local newsagent to find a magazine which would supply much of the detail computer manuals tend to omit, I came across this magazine. However, I am having a problem in making a back-up copy of your disks.

By following your instructions and using the RAM disk, the games and utilities copy onto a new and formatted disk but the documentation that accompanies each program does not, even though the 'DOC' icon appears on the copy. That is, when the documentation is selected, either from the disk menu or directly from the Workbench, an error 205 is returned.

A similar problem seems to exist with the *Scribble* software included with the computer in that everything appears to copy and work onto a back-up disk except the *Spell Check* program. The program works correctly from the master disk but when selected from the copy, 'Dictionary not found' is returned.

**D Halliday**
**Wantage**

■ *There is a problem copying files on the Amiga since not every file has an icon which shows on the Workbench screen. What is happening is that there are important files on our cover disk which don't have icons and simply can't be copied by dragging icons. Specifically, in order to display the .DOC files a program called* MORE *is on the disk, but you can't see it or copy it from the Workbench.*

*Your only recourse is to use the CLI to copy the disk:*
*– open up a CLI window by clicking on the CLI icon in your start-up disk's System drawer.*
*– Format a fresh disk called, say, MYDISK.*
*– Look at the name of the the cover disk to be copied, as shown below its icon (let's say it is COVERDISK#9).*
*– Type* `COPY COVERDISK#9:#? TO MYDISK: ALL`

*If you only have one drive, you'll be in for a lot of disk swaps, but all the hidden files will be copied.*

*Ordinary commercial disks like* Scribble *you should copy by dragging the disk icon onto the top of a blank disk icon, and this will copy every file. However, because the ST Amiga Format cover disk is a strange format this method doesn't work.*

## Pinning it down

I recently purchased a 520 STFM (one of the Atari Summer Pack offers) which I am very happy with. I now own a Star LC24-10 24 pin printer and the Timeworks *WordWriter ST* package, which I use for home as well as for my college course work. However, I am having some problems with the setting on the printer and Word Processor. The Star printer manual says that the DIP switches

## Cracking games

prize letter format

Seeing your review of 'STOS' in issue 4, I immediately wanted to get it. I was about to order when I glanced at a review of the Creator in another mag (*are there any others? – Ed.*). My heart sank when I discovered that you needed to include a message telling the public the origin of the created game. This would put people off buying your game, and I feel it was a serious omission to make in your review. Now for some questions:

1. Can you load 'Neochrome' pictures back into the ST?
2. Can you buy kits to clean the ball inside the mouse?
3. What is a TOS #35 error?
4. Will the new TOS (version 2.0) coming soon from Atari be compatible with the games I have now?
5. What use is a disk organiser? Is it like a filoFax? How about having a disk wallet as the letters' prize at some point – they're jolly useful!

Hackers – if you want to take a peek at a game's contents, insert a blank disk to start the ST with then insert a game disk, double-click on it to open it and all shall be revealed. If you want to try to run a DAT file, click on its icon and drag it a bit (leaving it in the same window) to copy it. Click on OK when asked if you want to make a copy, but when the screen with the two names comes up, press [Backspace] to wipe off the word DAT, then type in PRG at the end of the file name. Remove disk and insert blank disk. Click on OK when the blank disk is in. The copied file should have a different icon and be runnable. It usually crashes without the rest of the data from the game disk, but sometimes a tasty bit of information is revealed.

On AFS Alam's comments in issue 6, people might be ashamed to admit that they use BASIC, not because real programmers use machine code though, but because BASIC on the Atari ST is so utterly complicated. Why bother with all these menus? It may be faster, so they say, but it sure is a hell of a lot more complicated to work out. Gimme good old Amstrad BASIC any day!

**Martin Grover**
**Hailsham**

■ *On the version of STOS that we saw there was no message saying that STOS had been used to create a game. It is possible that the review you read implied that you really ought to admit to it to keep your conscience clear. Mind you, any software house talent scout will be able to tell anyway.*
*1 – Neochrome pictures are always low resolution (320 by 200 pixels), but almost all art packages* (Degas, HyperPaint) *can load, edit and save in this format.*
*2 – If your mouse gets grubby balls, the best thing is to remove the ball and clean it with some meths. Also clean the cylindrical rollers inside the mouse, where the ball makes contact, with some meths on a cotton bud.*
*3 – TOS #35 error means the file you tried to run isn't a correct program and the ST can't load it.*
*4 – Should be, but you never can tell until you see it.*
*5 – You aren't allowed to say 'filoFax' (®, ™, © etc) or you get sued, but you've got the general idea. And just for you, we'll send a disk wallet rather than an organiser.*

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will set paper lengths of either 11 or 12 inches, but A4 paper is 11.6 inches long! This may not seem like a lot, but it is enough to mean that printing starts slightly further down the page on each sheet that is printed, which means I have to print each sheet one at a time. On top of all this, the Timeworks package assumes a page length of 66 lines, which is no help at all. Can you please, please, PLEASE tell me what settings I should be using to get the right printout?!

As a frequent user of a Word Processor, I like to be able to store documents in a RAM Disk while I'm working on them, and then save them to floppy disk at the end of the session. It also speeds up printing as WordWriter uses a print-spooler program. What I want to know is if there is any way to modify the DESKTOP.INF file so that all files with a .DOC or .LET extension are copied from the floppy disk to the auto-booting RAM disk when I switch on the system.

**Mr S Lawson**
**Ulverston**

■ *Unfortunately most printers and software are geared up for American paper sizes rather than European ones. American 'Quarto' paper is 11 inches deep, compared to our slightly longer A4 standard. Most printers produce text at 6 lines per inch, which at 11 inches per sheet gives your figure of 66 lines a page.*

*You solution is to change your paper to continuous 11" stationery. This is the most common kind there is, precisely for this reason, and you should have no trouble getting hold of it in any quality you need.*

*There is no way on the standard ST of copying a group of files to a RAM disk on start-up (maybe one of you clever lot knows of a PD program to do this?). However, Arnor's ST Protext provides a command line system for your ST, and by making Protext the program in your AUTO folder you can make it copy all the files for you. It does mean changing your word processor though, so how important is it to you?*

## Double trouble

My problem is but a simple one, so I hope you can help.

I am the proud owner of an Atari 520STFM and I am considering upgrading to a 1040, but I am worried that some of my vast collection of games will no longer run on it. So quite simply will all 520 software run on a 1040?

**V M Childs**
**Watford**

■ *Yep, the 1040 will run all 520 software perfectly.*

## Three's company

I have just placed a subscription for your excellent mag. However, your back issue dept have run out of issue 3. Can you please ask your readership if anyone is willing to part with their copy and disk? I will refund the magazine cost and postage.

**Mr Keith Thornton**
**Canvey Island, Essex SS8 9PX**

■ *There's a free classified ad for you – aren't we kind? And the other issues are selling out fast, so get your orders in now for these valuable first editions.*

## Last word

I think that *First Word Plus* word processor is in some ways better than a real DTP program. In *FWP* graphics are printed in graphics mode and text is printed in printer fonts. When you only own a 9-pin printer, then this is a better solution than printing everything as a graphics dump (takes a long time to print, ribbon gets worn quickly, quality is not very good) like DTPs. OK, if you own a laser printer then it's no problem!

Could you please put a program which converts low/high resolution screen in to high resolution and vice versa on disk for the ST?

**Jay Lee**
**The Netherlands**

■ *You've hit on the essential problem of DTP packages, that without a laser printer the quality of the text they produce is very poor, compared to the printer's internal fonts. Of course you're restricted in the text sizes you can use in FWP, but for simple applications a it will give better results than a DTP package.*

*Anyone out there care to write us a screen mode convertor for the disk? Big baksheesh await you – see the disk pages for details.*

## Not fare

With respect to your tailpiece in the January issue, TAX!! page 98, it would appear you know as much about taxis as you did about adverts, and box numbers. Well, to enlighten you hicks from the sticks, the Hackney Carriage Act states that a fare paying passenger will enter a cab and instruct the driver to take him to an address, providing it is within a six mile area and the fare will be charged according to the meter.

Over that mileage, the fare will be the subject of negotiation between the paying passenger and the driver.

Again, before a taxi driver can get a licence to operate, he must pass a written exam and be conversant with all the roads, streets etc. in Greater London. The novice used to learn by riding round the capital on a push bike. I understand they now do it on mopeds, so all taxi drivers know where Ally Pally is. And if you are so manic you could have got a line car.

Please don't try and take the mickey at other people's expense, it only makes you look stupid.

**Dixon B Ashman**
**Ashford**

■ *Our suggestion that London cabbies don't know where Ally Pally is was really intended to be a 'joke'. Apologies if the nuances of this revolutionary literary device haven't reached Ashford yet.*

## Case for conversion

I have had an ST for some time now and just recently bought an Amiga.

On the ST I used the *Neochrome* art package and have many NEO picture files. I am wondering whether there is a program, preferably PD, that would change the Neochrome files into Amiga IFF picture files.

I still have both computers so a program on either of them will do.

I would also like to know if the Amiga version of the Vidi digitizer has been released yet.

**David Janning**
**Southampton**

■ *Many ST art packages can read IFF files (Degas for one) but not many Amiga ones can read ST Neochrome ones. One commercial Amiga program that will do the conversion is Pixmate from Precision Software (01-330 7166).*

## Kilo on the loose

Granted, it is not often that you make mistakes, but when you do... Boy! What huge mistakes! In issue 7 (Jan) on page 81 in the 'Make Your ST Stereo' project, just under the vero-board diagram, the three resistors used are listed as 680, 15k , and 33. However in the actual vero-board diagram, the third resistor is listed as a 33k , a difference of about 32967!!!!! How are people expected to build so delicate a project if the plans are so inaccurate? We are talking about opening the ST!

OK, so you're in the clear – you have a little legal clause in heavy print. A fat lot of good that does to someone with a trashed ST!! 'We take no responsibility.....'

The idea, however, is terrific. I certainly wish to perform the operation on my ST, but without using plans that contradict themselves. Could you please tell me which is the right value resistor.

Please can we have more electronics projects. They enhance your already fantastic magazine.

**Gary Warburton**
**Dublin**

■ *Oops! The value on the resistor was correct, 33kΩ. We plan to do one major hardware project roughly every three months, so that should keep you smiling.*

## Beetlemania

As a recent subscriber to your wonderful magazine, I find it necessary to object to a comparison made in the review done on *Powerdrome*, Issue 6, December 1988. You state that "the annoying rumble of an engine, which sounds as if it came from a 1950 Volkswagen Beetle, accompanies your trip around the track." It is this reference that I find offensive. As a proud owner of a VW Beetle I feel this will be taken as an insult by all VW Beetle owners out there. I therefore appeal to all Beetle owners to boycott *ST Amiga Format* until this statement is retracted and an apology is made.

**Craig Golby**
**Solihull**

■ *Of course we meant to imply that the luxurious throaty roar of a Beetle sounded as though it were a supersonic space racer. Unfortunately due to a printing error the words got changed around a bit.*

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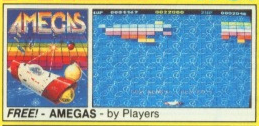

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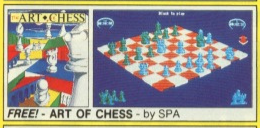

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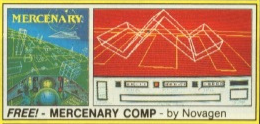

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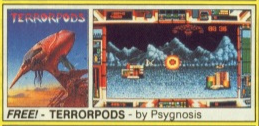

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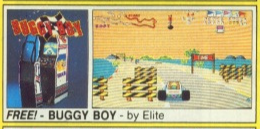

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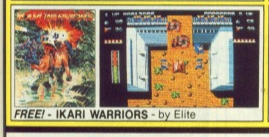

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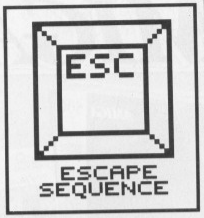


## Software Winners

The grand Christmas competition for Atari and Electronic Arts software has finally drawn to a close, much to the relief of the Bath posties. OK, so the questions weren't too brain taxing, but if you really had difficulties: 1 – b; 2 – e; 3 – s; 4 – i; 5 – n; 6 – t; 7 – e; 8 – x; 9 – i; 10 – t. Rearrange these letters, and the phrase we were looking for was **SIXTEEN BIT**.

On the Amiga side, the winner of a year's Electronic Arts software is Mr. A.J. Streeter of Lincoln. Second prize: Lee Taylor of Finchley, and third prize: Nick James of Gloucester. The 17 others who also receive an EA sweatshirt are: Chris Caunt, Hemel Hempstead; Daniel Fulton, Liverpool; Martin Chalk, Colwyn Bay; Scott Martin, Messingham; D. Bunting, Saffron Walden; Mark Freer, Hull; Mark Thomas, Maidstone; T. Cheyne, Glasgow; T.R. Broadhurst, Warrington; Anthony Haughty, Major; A.R. Munro, Inverness; Andrew Tate, Whitley Bay; Paul Kilkenny, Stockport; Doug Kyle, Watford; W. Nicholls, Telford; Austin Sutter, Gosport; and Cliff Francis, Harpenden.

For the ST, the lucky recipient of a year's Atari software is Graeme Robinson of Alderley Edge. The five runners-up are Stephen Taverner, Preston; Kevin Burt, Inverness; A Shallcross, Hailsham; Simon Wiles, Denmead; and S.J. Martin, Romford.

Congrats to you all, and thanks to EA and Atari for the prizes.

## ONE STEP BEYOND?

(such as the PC40 Series III and the Amiga 2500) and a discussion forum on its largest ever stand at the show.

The Amiga 2500 is being shown for the first time, it operates through version 1.4 of Workbench, uses the 68020 Central Processing Unit and boasts an enhanced chip-set.

The Amiga 2500 is destined to house both the Unix card and the AT-

***Just before the end of January, a final copy of Workbench 1.3 for the Amiga dropped onto our office doormat. Well, it only took a year to come, but it's good to know that version 1.4 will only take a day or two. This snippet from a Commodore press release reveals that it will be seen at the Which Computer? show from February 21-25. Shome mishtake, shurely?***

## Superheroes, Inc.

**by Sarkar**

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I WILL REMAIN ANONYMOUS
AS I SAID...
AUME IS AT STAKE.
"WHAT OF THIS INNOCENT MAIDEN, SCANTILY CLAD CHILD!"
FOR UNLESS YOU SIGN THIS CONTRACT ...
...AGREEING TO THE WITHDRAWAL OF ALL AMIGA GAMES BUNDLES ...
I WILL RUTHLESSLY BLOW HER AWAY!
DON'T DO IT, COMMODORE MAN!!
MY LIFE IS AS NOTHING COMPARED TO COMMODORE'S PROFITS!
WELL... IF YOU'RE SURE, MISS...
(WHA...)
(OUF!)
HE'S GONE! YOU AND YOUR BIG MOUTH!
DID I TELL YA TO SAY ANYTHING? HUH?!
HERE I WAS TRYIN' TO BE CONVINCING! JUST GAME MY MONEY, TRAMBELAU! I'M OUTTA HERE...!

# NEXT MONTH

Even as you read this, the Format team, chained to their desks by an evil publisher, are slaving away to produce the April issue. Don't be a fool, watch out for it in the shops on

**THURSDAY 16th MARCH**

Planned goodies (as ever we may have to shuffle things to make room for even better articles) include:

■ EXPANDING HORIZONS – Upgrade your micro to take those 1-Megabyte, 2-disk drive programs. Find out where the best RAM prices are.

■ ANIMATION – What's all the fuss about? What can you really do with your machine? A new mini-series starts.

■ RAVE REVIEWS – *AmigaDos 1.3* is finally here; *Movie Setter* from Gold Disk; *AMAS* and *Replay 4* sound samplers, and more. If it's worth knowing about it's here.

■ GINORMOUS GAMES – *Populus* leads the field in the month's best 16-bit games. Get into some quality brain teasing.

■ MACHINE CODE SECRETS – You asked for it, so here it is. A tutorial for beginners with a complete development system on the cover disk.

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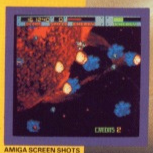

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